BUSINESS WEEK

YEAR AGO

WEEK AGO

START OF WAR 1939

Economics Library

Maj. Gen. Leslie R. Groves: The Army's top man on the atomic bomb project eyes the target of destruction

A BUSINESS WEEK SERVICE

UNIV OF MICH
GENL LIBY
ANN ARBOR MICH
4-C C

TWENTY CENTS • PUBLISHED BY THE McGRAW-HILL PU

LOOK INSIDE THE *Machine* FOR NEW ECONOMIES IN ANY INDUSTRY

The Heat's On—for engines and executives!

TODAY'S pressing production schedul still call for full power inside your e gines and careful planning on your part keep *all of your machines* at peak outp

This cutaway picture of a Diesel engi shows the importance of correct lubricati to this effort. Above that plunging pist combustion heat flashes to 3,500° F. T pressures are terrific. Socony-Vacuum h perfected special Diesel Oils that stand under these conditions, keep rings from stic ing, prevent loss of power, protect vital pa from wear.

The same is true for giant turbines, ste engines and production machines of all typ Gargoyle Oils and Greases assure maximu protection of all moving parts, continuo production at low maintenance costs. Ju as important, Socony-Vacuum's Comple Lubrication Service for your plant gives y the five extra benefits listed below.

Call now for this unbeatable combinati

SOCONY-VACUUM OIL COMPANY, IN and Affiliates: Magnolia Petroleum Compa General Petroleum Corporation of Californ

Call in SOCONY-VACUUM *for Correct Lubrication*

GARGOYLE Lubricants

Socony-Vacuum's 5 STEPS to Lower Production Costs for You!

1. Lubrication Study of Your Entire Plant
2. Lubrication Schedules and Controls
3. Lubricant Storage and Handling System
4. Skilled Engineering Counsel
5. Progress Reports of Benefits Secured

Photo courtesy of Hercules Powder Co., Inc.

Now we're putting pine stumps in tires

A typical example of B. F. Goodrich development in rubber

RUBBER experts have puzzled for years over how to make tires run cooler—especially big truck tires. They often get hotter than boiling water—so hot that the tires begin to disintegrate, blow out.

With synthetic rubber, the problem increases. For synthetic rubber tires generate far more heat than those of natural rubber. Chemists pondered this fact, experimented with different ways to compound GR-S, the government synthetic rubber which all tire companies now use.

One of the things used in making synthetic rubber is soap made from animal fats. B. F. Goodrich men, working with a chemical company, developed a synthetic rubber using a new kind of soap, derived from the rosin in pine stumps. Rubber made with this soap is less brittle. Tires are less subject to cracking. But even more important, they run cooler! Tires keep their strength. Tire life is increased.

Now all B. F. Goodrich truck tires are made with this new rubber—a development so important that it was long regarded as a military secret.

B. F. Goodrich research continues to improve tires for every purpose—tires for trucks and buses, for airplanes and passenger cars, tires for farm tractors and implements, for all kinds of industrial equipment. This policy of continued improvement is your assurance of quality in every tire bearing the B. F. Goodrich name. *The B. F. Goodrich Company, Akron, Ohio.*

Truck Tires BY

B.F. Goodrich

Republic rubber belts

TRANSMIT POWER ON THE FARM, IN INDUSTRY OR IN THE OIL FIELDS

Wherever flat belt drives are used, there is an application for one of Republic's Transmission Belts. Light weight belts operate on the farm, while heavy duty belts pump oil in Texas and serve hundreds of uses in heavy industry. Each of Republic's types and grades is designed for its ultimate service. Ruggedness, strength and flexibility are built into all and resistance to oil and heat where these conditions are service factors. Consult your nearby Republic Distributor.

WE ARE PARTICIPANTS IN THE OWNERSHIP AND OPERATION OF NATIONAL SYNTHETIC RUBBER CORPORATION

REPUBLIC RUBBER

DIVISION

LEE RUBBER & TIRE CORPORATION

YOUNGSTOWN 1 OHIO.

REPUBLIC INDUSTRIAL PRODUCTS YOUNGSTOWN O

LEE DELUXE TIRES AND TUBES CONSHOHOCKEN PA

BUSINESS WEEK

WHERE TO FIND IT

Canada 1
Construction 1
Figures of the Week 1
Finance 1
General News 1
Labor 1
The Labor Angle 1
Marketing 1
The Markets 1
New Products 1
The Outlook 1
Production 1
Report to Executives 1
The Trading Post 1
The Trend 1
The War and Business Abroad 1
Washington Bulletin 1

The Pictures—Cover, 5—Harris & Ewing; 19—Acme, Harris & Ewing, Wide World; 32—Charles Phelps Cushing, San Francisco Convention Bureau; 90—British Combine; 94, 98—Acme; 113—Sovfoto.

EDITOR
Ralph Smith

MANAGING EDITOR
Louis Engel

ASSISTANT MANAGING EDITORS
John M. Johnston, Clark R. Pace

NEWS EDITORS
Wayne Jordan, Henry R. Lamar, Harold S. Polt, Raymond A. Dodd (Illustration)

STAFF EDITORS
Foreign, John F. Chapman • *Production*, W. Dodge • *Law*, J. A. Gerardi • *Finance*, W. McK Gillingham • *Labor*, Merlyn S. Pitzele • *Indust* James M. Sutherland • *Marketing*, Phyllis Wh • *Staff Economist*, Sanford S. Parker • *Washi ton*, Irvin D. Foos

EDITORIAL ASSISTANTS
Cora Carter, Brownlee Haydon (Assistant Foreig Editor), John Hoffman, Richard M. Machol, Ma Richards, Arthur Richter, Margaret Timmerma E. T. Townsend (Assistant Labor Editor), Be West, Doris I. White • *Statistician*, Abraha Stein • *Librarian*, Patricia Burke

EDITORIAL BUREAUS
Chicago, Arthur Van Vlissingen, Joseph C. Gra • *Cleveland*, Robert E. Cochran • *Detroit*, Stan H. Brams • *San Francisco*, Richard Lamb *Washington*, McGraw-Hill Bureau (Irvin D. Fo J. L. Cobbs, Stuart Hamilton). Staff Correspon ents throughout the United States, and in Canad Latin America, Great Britain, U. S. S. R.

PUBLISHER
Paul Montgomery

BUSINESS WEEK • AUGUST 11 • NUMBER
(with which is combined The Annalist and Magazine of Business). Published weekly by McGra Hill Publishing Company, Inc., James H. McGra Founder and Honorary Chairman. PUBLICATIO OFFICE 99-129 NORTH BROADWAY, ALBANY N. Y. EDITORIAL AND EXECUTIVE OFFICES, 330 42ND ST., NEW YORK 18, N. Y. James H. McGr Jr., President; Curtis W. McGraw, Senior Vice-Pre dent and Treasurer; Howard Ehrlich, Vice-Presid (for business operations); John Abbink, Vice-Pre dent (for editorial operations); Joseph A. Gera Secretary. About subscriptions address: J. E. Bla burn, Jr., Director of Circulation, Business Week West 42nd St., New York 18, N. Y. Allow ten days change of address. Subscription rates—United Stat Mexico and Central and South American countr $5.00 a year. Canada $6.00 for a year. Entered second class matter December 4, 1936 at the P Office at Albany, N. Y., under the Act of March 1879. Return postage guaranteed. Printed in U. S.
Copyright 1945 by McGraw-Hill Publishing Compa Inc.—All Rights Reserved. Please indicate positi and company connection on subscription orders.

WASHINGTON BULLETIN

DRIVE

With Russia coming in for the kill, ashington took it for granted that esident Truman would call Congress k into session. Its program: legision to dismantle war-supporting funcns that do not expire automatically h the war's end; legislation to tem the violence of a transition to peacene economy.

Washington officials were getting ced for such a rush of industrial reversion that the best they could do s to get out of the way. One expecion: The surplus property disposal eration would be knocked flat, and ked around for years to come.

Immediate problem was the sharped demand of organized labor for dequate compensation until re-emyment picks up." Immediate cerinty was increased controversy over ice and wage controls, with the threat runaway inflation never greater.

•

CIENCE AT CROSSROADS

Release of atomic energy, with its ggering implications for lethal and neficent uses, has another aspect hich will have a profound effect upon ience and industry. It embodies the hole problem of future government licy with respect to both the condions under which invention is conicted and the utilization of inventions.

In President Truman's announcement that the atomic bomb was at last reality, he stated:

"I shall recommend that the Congress consider promptly the establishent of an appropriate commission to ntrol the production and use of omic power within the United States."

These are prophetic words.

upport and Controls Spurred

The first utilization of atomic force ill give powerful impetus to two movents: (1) government support of scienic research, and (2) government conol of the fruits of invention.

Government support for invention is spired by the conviction that it would ourish more vigorously. National seurity is a strong factor here, and the omic bomb is a dramatic example of chievement gained by coordination of ork conducted under government auspices and financed by government unds.

Government control over the fruits f invention is prompted by a desire to prevent abuses which curtail the public benefit that otherwise might derive from an invention.

Bills Now Before Congress

These two objectives are embodied in legislation pending in Congress. They are surrounded by dispute. Some contend that government support implies restraints on freedom of research activity, and that government control, without support, might lead to "bootleg" science.

It is generally accepted that the government should give greater support to scientific research within the government itself—but federal support to private educational and research institutions is debated.

Most important of the pending measures are the Magnuson and Kilgore bills. The first follows the recommendations of the Bush report (BW—Jul. 21'45,p120). In providing for government support this bill would place its administration in the hands of nongovernment personnel, and includes safeguards against government dictation.

The Kilgore bill would also make funds available to colleges and research institutions, but provides for government participation in administration, and would explicitly secure for the public the right to inventions resulting from government-supported research.

•

ARMY TO RECONSIDER

The Army again is on the defensive in the Battle of Washington.

This is underlined by strong talk for reducing the size of the army which undoubtedly will be greatly strengthened by Russia's joining the war against Japan. Although Sen. Edwin C. Johnson's recent challenge that fully 5,000,000 of the 8,000,000 men now in uniform could be discharged is wild-eyed, it does indicate the way the wind is blowing. So the Pentagon's brass hats may be expected to do some political fence-mending before Congress returns. That means:

(1) Releasing some manpower for labor-starved industries that are boxing-in reconversion and the war-supporting economy. Shortly after the Mead committee's recent blast, it was announced that men would be made available to the railroads (BW—Aug.4'45, p5). Next on the list will be coal mining, lumber, and perhaps cotton textiles and steel.

(2) Reviewing more realistically existing inventories of clothing, food, and civilian-type hard goods. The Battle of the Bulge gave the Army a golden opportunity to stock depots to the bursting point; now many items will be disgorged and find their way into civilian channels via the surplus route.

(3) Cutbacks in war contracts, over and above the amounts planned. This has been standard experience since one-front war schedules were first set up. From here on out, the trend in this direction will be more striking. And that means greater-than-expected quantities of basic materials for reconversion.

Allies again—with a master plan. *(page 111)*

•

P.A.C. STILL ALIVE

Sweeping victory of the British Labor Party brought immediate wonder whether American labor politics, which reached a peak in 1944, possessed similar unsuspected strength. Results of this week's Detroit nonpartisan mayoralty primary consequently has been interpreted as an indication that American labor is ready to stride ahead politically.

Basis of this is the strength shown by Richard T. Frankensteen, 38-year-old United Auto Workers (C.I.O.) vice-president, in topping a field of seven primary candidates including Mayor Edward E. J. Jeffries.

Actually, however, there is little or no political signficance in the Detroit vote, except that C.I.O.'s Political Action Committee still is alive and kicking. P.A.C. backed Frankensteen (BW—Jun. 2'45,p102), got out a heavy vote, but there is no reason to interpret the re-

POST WAR CAR FOR MILLIONS OF AMERICANS

Let's imagine it's the day after V-J Day.

Millions of American families who've patriotically suppressed their desire to go places during wartime are now anxious to be out on the road again.

But many of these families won't have a car of their own for some time to come, for thousands of cars will have gone out of service, and it may take years to replace them.

Won't it be only natural then for many travel-hungry Americans to turn to the buses that have served them so well during the war years? Furthermore, other millions of men, women and children will continue to rely on buses for daily transportation—to work, to school, for shopping and visiting.

Thus the bus operator's postwar job m become bigger and more difficult than ev However, there's one factor that will tend make things somewhat easier. That is t better gasoline that will be available. (Tod the best gasoline—improved with Ethyl fl —is still fighting.)

We of Ethyl look forward to helping t bus industry make the best use of this bet gasoline certain to come. We hope, throu the continuation of cooperative research a service activities, to contribute to the i provement of engines, fuels and motor tra portation itself.

ETHYL CORPORATION, *Chrysler Building, New York 17, N. Y.*

Manufacturers of Ethyl fluid, used by oil companies to improve the antiknock quality of aviation and motor gasolines.

to mean that P.A.C.—or any branch labor—can do a similarly successful under different local conditions. Detroit situation is unique. U.A.W. some 400,000 members there, and ent social and economic influence ending outside labor ranks. More- r, Jeffries for some time has been in graces with labor, leftists, and ng Negro elements in Detroit. Un- the circumstances, internal ructions U.A.W. were ignored as P.A.C. and .O. backed the union executive to hilt.

•

UNT FOR A LOOPHOLE

Because Russia is being talked up as otential borrower and buyer, State pt. officials are searching zealously some way to open the American rket to her goods. Otherwise it n't be able either to service its debts to pay for its own purchases. Ordi- y tariff bargaining won't work, since ssia buys through government mon- lies, which fix the prices they will

Our officials are wondering whether eneral agreement might be framed ler which Russia would get most- ored-nation treatment, benefiting n our tariff bargaining with other na- ns. In lieu of reciprocal concessions, ssia would be asked to pledge lump n purchases to be placed, on a ight commercial basis, in all mar- s.

To work out the deal, a worldwide ff conference might be necessary. h conferences are hard to organize , when organized, sometimes beget e more than nicely written resolu- ns.

lars for the Empire?

Pressured by businessmen who'd like break into British Empire markets, Administration is trying to work a deal under which the British uld let its creditors within the Em- convert their blocked sterling into lars. The subject almost certainly come up during the London United tions Relief & Rehabilitation Admin- tion conference.

All sorts of schemes are wandering ut Washington in memos that cir- te from department to department. y all involve U. S. loans—either to British direct, or to the members the Empire. The British don't want borrow just yet; hence the arrange- nt must be dressed up.

One idea, for instance, is for a swap of colonial holdings of sterling for British bonds which would be payable, in small part, in dollars; the call on dollars might then be made bankable with our Export-Import Bank.

•

WORLD BANK BONDS

About 18 months from now, investors looking at the bond market quotations in their morning papers will see the first issues of the World Bank, say the officials who steered the Bretton Woods agreement through Congress. A typical issue, they think, will yield something less than 3%.

It won't be a U.S. government bond in the sense of being exempt from state taxes or from Securities & Exchange Commission registration. On the contrary, it will be sold, like any foreign issue, by prospectus only.

Treasury officials take it for granted that state banking and insurance supervisors will be delighted to admit the

Truman Will Hew to Present Line, Unless—

National politics are looking up, and politicians are getting busy.

The gravest uncertainties of the war have been lifted; the Truman-Congress honeymoon is nearly over—even though it doesn't seem likely to wind up in divorce court; and with a decisive Labor Party victory in Britain resounding across the Atlantic, next year's congressional elections are significantly in the offing.

Whatever the appearances to the contrary, the Truman Administration is not going to move appreciably to the right—nor greatly to the left—unless and until business droops. In that case the federal government may assert a role in the national economy which might make the New Deal appear comparatively conservative.

• **"Young Turks" Restive**—The forces which created the New Deal were not dissolved by the death of the foremost New Dealer. The New Deal's "Young Turks" in the Senate, led by Claude Pepper of Florida and Harley Kilgore of West Virginia, are restive, apparently intent on extending the boundaries of the Roosevelt social policies.

That's all right with Truman. He's entirely willing to have others make propaganda—such as will be made during the well-staged hearings on the full employment bill—and then he will press for the maximum area of agreement between the two wings of his own party.

Truman will do as much as seems necessary to keep labor solidly in the Democratic column. If the British elections also betoken labor's temper in this country, he will swing with it. But an important factor is that United States labor doesn't have as much ground to gain as British labor.

• **On Roosevelt Formula**—Truman is operating on the same political formula which put Roosevelt in the White House four times: Southern Democracy—which likes the policies of neither Roosevelt nor Truman—needs northern labor to hold national office and the New Deal gives the Democratic Party of the South a labor constituency which it could not attract by itself.

Truman obviously will not offend a labor constituency essential to his election in 1948.

Truman's accession to the White House both helps and hurts G.O.P. prospects. It hurts them because it weakens the time-for-a-change argument, and by avoiding a bitter Democratic nomination fight, as would inevitably have followed a full Roosevelt fourth term, it means that the Republicans will certainly not inherit office in 1948 by default, as they expected. It may help the G.O.P. by scaring it into nominating a strong presidential candidate instead of a we-can-win-by-default nominee.

• **House Upset Possible**—Control of the House definitely will be at stake in the coming congressional elections. Last fall approximately 70 seats were won by no more than a 5% margin of the total vote. A turnover large enough to put the House in Republican hands is entirely possible.

Herbert Brownell, Republican chieftain, is touring the most promising midwest and far west states, and Robert Hannegan, Democratic chairman, is finding postoffice business that conveniently takes him around the country.

securities into the portfolios of savings banks, life insurance companies, and trustees.

Before any bonds are sold, the currencies of potential borrowers will have to be revalued, but officials think cheerfully that this can be done quickly.

•

AGAINST WAGE CUTS

The National War Labor Board's forthcoming wage policy revision recommendations to Economic Stabilization Director William H. Davis will include a fiat against wage cuts without the board's permission. The object, of course, is to protect labor on the downswing. This won't be necessary in most cases where employees are organized, but where they're not, it may be a different story.

NWLB still has its eye on maintaining the stability of the wage structure, and it regards epidemic cuts as just as great a threat to stabilization as inflationary boosts.

•

CAPITAL GAINS (AND LOSSES)

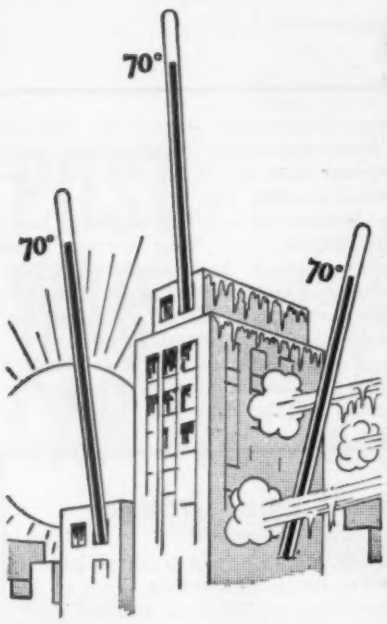
Until OPA is finally interred, any metalworking shop is likely to get into hot water if it quotes prices in conformity with the Commerce Dept.'s new manual on the subject. "Obviously," says the manual, "no set rules and regulations are possible for determining prices. Determine, first, how much it will cost to do the job, and, second, what the traffic will bear."

The Army has just dispatched some 50 fingerprint experts to the U. S.-occupied zone in Germany. Object: to fingerprint at least 3,500,000 former storm troopers and other selected Nazis to simplify checking on their future activity.

—Business Week's Washington Bureau

THE COVER

Leslie R. Groves may go down in history as the general who launched the last assault on Japan, but history may give the quiet Army construction engineer an even bigger place in its annals. It was his War Dept. task to build the plants, assemble the materials, and coordinate the production job that translated atomic research into the atomic bomb. But his bomb could eventually turn into atomic power for the work of civilization (page 15). This week the terrible explosion over Japan eased the fist of censorship on long-held reports from Business Week's correspondents in uranium centers and previously secret bomb-production points, but even yet these reports must not be fully divulged.



Measure for Heating Values

Even, comfortable temperature—in every room; on every side of the building—in zero weather and on mildest days—with lower fuel bills ... *The value of a Heating System is measured in Comfort balanced against Cost.*

The Webster Moderator System of Steam Heating delivers to *each* radiator only the amount of steam required to maintain an even, comfortable temperature regardless of exposure or changes in outside weather conditions. It is an automatic system with automatic controls. It won't overheat. It won't underheat.

"Control-by-the-Weather" is provided by an Outdoor Thermostat which automatically balances the delivery of steam to agree with every change in outdoor temperature.

More Heat with Less Fuel

Seven out of ten large buildings in America (many less than ten years old) can get up to 33 per cent more heat out of the fuel consumed! . . . A book "Performance Facts" gives case studies—*before* and *after* figures—on 268 Webster Steam Heating installations. Write for it today. Address Department BW-8

WARREN WEBSTER & CO., Camden, N. J.
Pioneers of the Vacuum System of Steam Heating
Representatives in principal Cities : : Est. 1888
In Canada, Darling Brothers, Limited, Montreal

Fuel-Saving Starts With CONTROL

AUTOMATIC Webster Steam Heating

THIS MAN IS DOING THE WORK of 4

One man and a Mercury "Jeep" fork tr
can handle—transport and stack to ceil
heights . . . loads that would require t
or more men to handle manually. And
job can be done faster—safer and at lo
cost.

In view of increased labor cost it will
incumbent upon management to see
each employee is engaged at his most p
ductive level. For economy as well
greater efficiency, materials will be hand
mechanically.

A Mercury Field Engineer will be ha
to consult with you on the most mod
advancements in materials handling. Th
is no cost or obligation.

FREE

Mercury Catalog No. 7-11 contains a wealth of valuable information for the handling executive. Write for your copy today.

THE MERCURY MANUFACTURING C
4146 South Halsted Street
Chicago 9, Illinois

MERCURY

TRACTORS • TRAILERS • LIFT TRUCK

THE OUTLOOK

USINESS WEEK
UGUST 11, 1945

With the news of the atomic bomb and Russia's declaration of war on Japan this week, the country learned why the military men in the know have been talking about the war ending any day.

The footnote on this is: Business should be prepared for an immediate and complete change in its reconversion schedule.

Meanwhile, there is a wholesome optimism about industry's ability to get back speedily into normal civilian production (page 120), even though a quick end of war output admittedly will pose some tough problems.

•

Quiet confidence in the outlook was mirrored in the stock market. Trading bore little appearance of the "peace scares" of the recent past.

There was hardly a ripple Monday after the first news of the Hiroshima bombing; Tuesday's spill wasn't deep nor was trading volume large.

•

Business as a whole is well-heeled with cash to finance reconversion and programs for postwar expansion.

After putting aside money for taxes and large debt retirements, a $20,000,000,000 nest egg was accumulated in 1942, 1943, and 1944; another fat addition will be made to the total in 1945.

Expansion will be aided, too, by provisions of the new tax bill which speed up postwar refunds and liberalize the loss carryback feature.

Finally, banks have 20% less money out on loan to business than in early 1942 and investors' appetite for new securities is good. More common stock was sold—and easily—in July than in any month since 1929.

•

Investments by business over the next year in plant, equipment, inventory, and credit will top all records, the Dept. of Commerce reports.

All manufacturers, according to the survey, propose investment of $9,200,000,000 with $4,500,000,000 going into capital equipment.

About 75% of the cost would be met out of cash on hand.

Two of the largest expenditures would be by textile mills and transportation—lines which have run-down equipment because they were short on money before 1939 and haven't been able to fill their needs since.

•

Reconversion will get enough steel for a real start in the fourth quarter.

There may not, even then, be an ample steel supply—barring a change in the war timetable—but the gain will be a big one.

Military demands have been going down gradually. However, the decline in output which is to be expected in hot weather (BW—Jun.16'45,p9) has cut steel available for civilian output far below WPB's hopes.

The fourth quarter will show a two-way gain—more output alongside less demand. Cooler weather and more manpower will turn the trick.

•

Here is a round-figure picture of the volume of finished steel for civilian production, starting with the last three quarters of this year:

Second Quarter: 300,000 tons (made up wholly of steel allocated to critically needed civilian goods on priorities).

Third Quarter: 800,000 tons (two-thirds of it allocated to critical items and the remainder "free" steel for which buyers could scramble).

Fourth Quarter: 2,200,000 tons (with only 300,000 tons allocated).

But remember, not all the steel earmarked for civilians goes into con-

sumer goods that anyone may buy: (1) The stuff that gets allocations is more likely to go to a military hospital than to Joe Doaks; (2) some of that which is "free" goes to items like locomotives, construction, farm implements.

•

Shortages of sheet and strip steel promise to persist for most of this year. Fourth-quarter demand, as mills and WPB add it up, is 4,400,000 tons for all military and civilian products; supply, with a 400,000-ton rise in output, will be only 4,000,000. Civilian supply is put at 1,100,000.

•

A freer labor market would fortify steel men's hope that they can meet fourth-quarter production goals.

Present output (in their coal mines as well as in their mills) is impeded by wildcat strikes, slowdowns, absenteeism. If it is a little easier to hire in another month or two, there will be fewer worries.

•

The showdown on the Little Steel formula is to be expected within a matter of weeks (BW—Jun.30'45,p9).

Wage earners' weekly pay checks are going down, the cost of living up.

This creates pressures, lays the foundation for strikes (even though today's flareups appear to result from trivial and extraneous causes).

Such are the fundamentals to be faced by the government-management-labor "peace conference" proposed last week end by Sen. Arthur H. Vandenberg (page 98) and espoused by Labor Secretary Lewis B. Schwellenbach.

Working out a charter for labor peace won't be too easy.

•

Trouble over wages arises from the fact that the average weekly pay check, which was $47.50 earlier this year, had sunk to $46 by May. **At the present time, the figure probably is below $45.**

Gradual reduction in overtime is the reason for this decline.

•

Criticism of the Bureau of Labor Statistics' cost-of-living index remains a focal point in discussions of wage policy.

The BLS should shortly complete (if the work hasn't already been finished) the review of its index on orders from Secretary Schwellenbach. **And if the new Labor Dept. chief decides it isn't a real index to the cost of living, he promises to insist on changes.**

•

Decision of the National War Labor Board to stick by the Little Steel formula (BW—Mar.3'45,p15) was based on the finding that straight-time hourly wages had risen 36.7% from January, 1941-October, 1944, while living costs were going up a little less than 30%.

Bringing the figures up to date, hourly wages have risen an additional 4% and the cost of living about 3%. Thus the argument, without evaluating hidden price increases and black markets, runs against labor.

Yet the worker argues in terms of what he takes home each week, not his hourly wage. And the Administration backs him in that it is committed to maintaining public purchasing power at a high level.

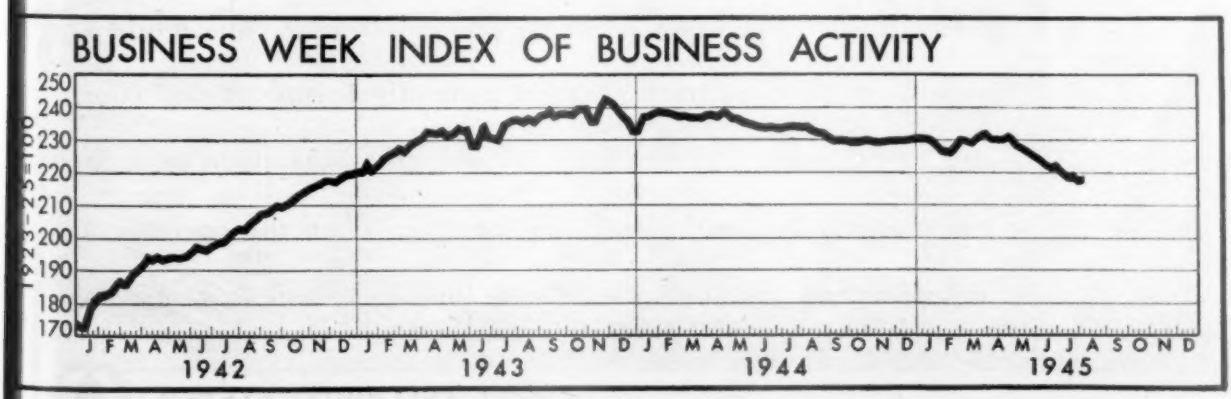
Revision of the cost-of-living index and a jacking up of the ceiling on hourly wages would be a convenient way out for Washington.

Contents copyrighted under the general copyright on the Aug. 11, 1945, issue—Business Week, 330 W. 42nd St., New York, N. Y.

FIGURES OF THE WEEK

	§ Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
THE INDEX (see chart below)	*219.1	†218.7	220.6	227.7	234.9
PRODUCTION					
Steel Ingot Operations (% of capacity)	87.9	90.8	89.0	87.9	96.6
Production of Automobiles and Trucks	18,690	16,105	14,365	20,770	20,220
Engineering Const. Awards (Eng. News-Rec. 4-week daily av. in thousands)	$8,237	$9,021	$7,315	$3,575	$6,186
Electric Power Output (million kilowatt-hours)	4,432	4,435	3,978	4,539	4,399
Crude Oil (daily average, 1,000 bbls.)	4,922	4,930	4,886	4,723	4,651
Bituminous Coal (daily average, 1,000 tons)	1,988	†1,917	1,987	1,947	2,064
TRADE					
Miscellaneous and L.C.L. Carloadings (daily average, 1,000 cars)	82	83	84	78	84
All Other Carloadings (daily average, 1,000 cars)	65	64	65	48	68
Money in Circulation (Wednesday series, millions)	$27,130	$26,926	$26,834	$25,240	$22,734
Department Store Sales (change from same week of preceding year)	+15%	+14%	+16%	+17%	+12%
Business Failures (Dun & Bradstreet, number)	18	22	9	16	15
PRICES (Average for the week)					
Spot Commodity Index (Moody's, Dec. 31, 1931=100)	255.0	254.7	256.6	253.5	249.6
Industrial Raw Materials (U. S. Bureau of Labor Statistics, Aug., 1939=100)	166.5	166.5	166.5	166.3	165.0
Domestic Farm Products (U. S. Bureau of Labor Statistics, Aug., 1939=100)	226.7	226.7	227.2	225.0	223.0
Finished Steel Composite (Steel, ton)	$58.27	$58.27	$58.27	$57.55	$56.73
Scrap Steel Composite (Iron Age, ton)	$19.17	$19.17	$19.17	$19.17	$19.17
Copper (electrolytic, Connecticut Valley, lb.)	12.000¢	12.000¢	12.000¢	12.000¢	12.000¢
Wheat (Kansas City, bu.)	$1.60	$1.59	$1.60	$1.64	$1.52
Sugar (raw, delivered New York, lb.)	3.75¢	3.75¢	3.75¢	3.75¢	3.74¢
Cotton (middling, ten designated markets, lb.)	22.52¢	22.53¢	22.61¢	21.45¢	21.06¢
Wool Tops (New York, lb.)	$1.330	$1.330	$1.330	$1.340	$1.340
Rubber (ribbed smoked sheets, New York, lb.)	22.50¢	22.50¢	22.50¢	22.50¢	22.50¢
FINANCE					
90 Stocks, Price Index (Standard & Poor's Corp.)	115.6	115.6	119.1	108.4	100.5
Medium Grade Corporate Bond Yield (30 Baa issues, Moody's)	3.27%	3.27%	3.26%	3.43%	3.55%
High Grade Corporate Bond Yield (30 Aaa issues, Moody's)	2.61%	2.61%	2.60%	2.66%	2.71%
Call Loans Renewal Rate, N. Y. Stock Exchange (daily average)	1.00%	1.00%	1.00%	1.00%	1.00%
Prime Commercial Paper, 4-to-6 months, N. Y. City (prevailing rate)	‡%	‡%	‡%	‡%	‡%
BANKING (Millions of dollars)					
Demand Deposits Adjusted, reporting member banks	37,533	37,440	35,875	36,076	33,597
Total Loans and Investments, reporting member banks	63,696	63,853	64,291	59,246	56,917
Commercial and Agricultural Loans, reporting member banks	5,926	5,903	5,935	6,350	6,015
Securities Loans, reporting member banks	4,830	4,811	5,482	3,331	2,993
U. S. Gov't and Gov't Guaranteed Obligations Held, reporting member banks	47,000	47,312	47,116	44,257	42,488
Other Securities Held, reporting member banks	3,303	3,201	3,132	2,882	2,942
Excess Reserves, all member banks (Wednesday series)	1,140	1,150	1,700	869	1,027
Total Federal Reserve Credit Outstanding (Wednesday series)	22,564	22,129	22,249	19,552	15,249

*Preliminary, week ended Aug. 4th. † Revised. ‡ Ceiling fixed by government. § Date for "Latest Week" on each series on request.


BUSINESS WEEK INDEX OF BUSINESS ACTIVITY
1923-25=100
250
240
230
220
210
200
190
180
170
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1942
1943
1944
1945

SOMETIMES SHE WILL ASK YOUR HELP ON LONG DISTANCE

Most of the time Long Distance completes your calls while you remain at the telephone. Service generally is prompt and courteous and friendly. . . . But there are still occasions when some lines get overcrowded and people are waiting. Then the operator will ask your help by saying — "Please limit your call to 5 minutes."

BELL TELEPHONE SYSTEM

BUSINESS WEEK

NUMBER 832

AUGUST 11, 1945

nter: The Atomic Age

For industry, as for all mankind, implications of the bomb opped on Japan far transcend its immediate war use. But long nd painful research must spell out its place in earth's economy.

As all the civilized world now knows, e Atomic Age was ushered in at 5:30 n. (M.W.T.), July 16, 1945, in the sert lands of New Mexico, 120 miles utheast of Albuquerque.

Millions of words have told the story that terrifying debut and the story the first use of nuclear energy in e atomic bomb that was dropped on roshima in Japan at 6:24 p.m. .W.T.), August 5—three days before ssia also dropped on Japan.

"Or Which May Even . . ."—There e no new words left to describe the esomeness of that bomb's destructive rce, 2,000 times more powerful than y bomb man has made before. The my said it all when it identified the mb as "a revolutionary weapon des- ed to change war as we know it or hich may even be the instrumen- lity to end all wars." Most immediate ospect was the termination of the panese war (page 111).

But there remain, for the future, bil- ns of other words which will tell the ry of the new creative force which e world has found.

For Painful Research—Too vast for mediate comprehension are the in- strial implications of unlocking a new urce of work-producing energy. Those plications, together with their social d economic counterparts, remain to be spelled out in painful, piecemeal research.

What is hardest to understand about atomic power is that there is a natural, never completely explained force that holds the nucleus, or core, of every atom tightly together. Whenever that force is released, as it was in the historic bomb that fell on Japan, by subjecting uranium to atomic fission, the energy released is almost unbelievably great. According to the editors of Power, a McGraw-Hill publication, one pound of uranium can be made to deliver as much heat for power as 1,370 tons of a good grade of steam coal, or enough to produce 2,700,000 kwh. of electricity with steam turbo-generators at an efficiency of 25%.

• **Ratio: 1 to 1,000,000**—This would mean that all the 2,000,000,000 kwh. of power now produced annually by the electric utilities in Greater New York with about 1,000,000 tons of coal could conceivably be furnished by a single ton of uranium. Conceivably is the word, for the problem of creating, slowing down, and regulating the atomic fission of uranium at costs within the realm of economic practicability is roughly comparable to figuring out how to use TNT to drive the family washing machine.

If the splitting of atoms can be harnessed, many engineers believe, it will mean a return to the steam engine—with a vengeance.

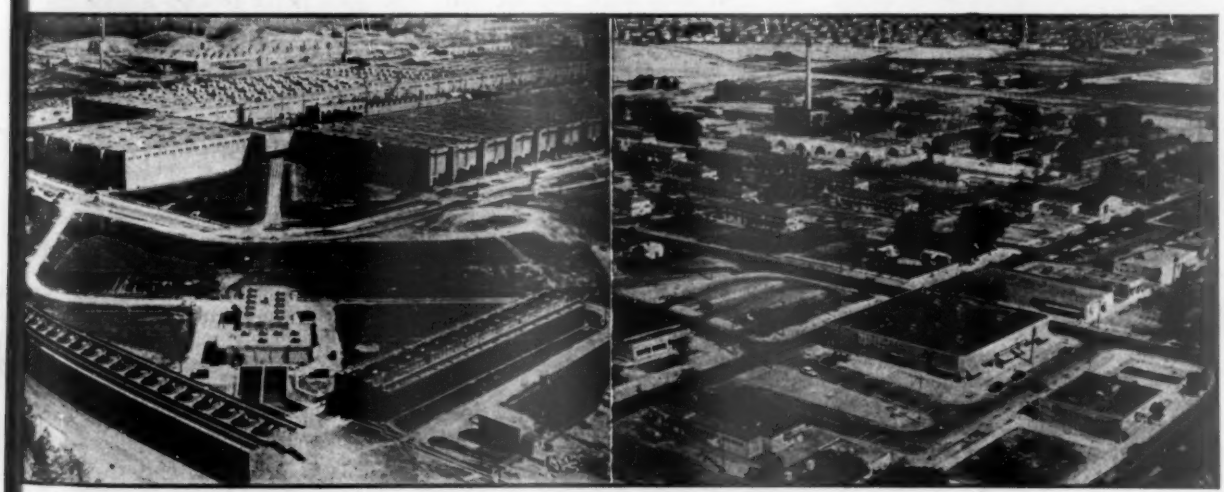
• **An Aspirin-Like Tablet?**—Although the manufacturers of gasoline engines and diesels have little cause for immediate competitive worry, they would be foolhardy not to consider the ultimate possibility that an aspirin-like tablet of U-235 may be immersed in a special boiler to generate steam for a standard turbine or reciprocating engine.

Such a power plant would seem as applicable to automobiles, railway locomotives, and central power stations as to merchant ships and passenger liners. With uranium, or possibly another splittable element, as the source of heat, gas turbines and jet engines would power the airplanes of the future virtually without the incubus of a fuel load, giving them a radius of operation well nigh incalculable.

• **A Deterring Factor?**—Apart from the explosive character of such a power source, there is one other danger: When uranium atoms split they give off some of the same beta and gamma rays given off by radium. Since such rays can do incalculable and irreparable harm to human tissue, a way will have to be found to control them.

If lead, the usual medium for shielding such radiation, will do the trick without unduly adding weight, all will be well, but shields using materials as yet unknown may have to be developed.

• **Cooperation**—Just what progress can be made toward the industrial utilization of atomic energy depends on how much can be preserved in peacetime of the whole-souled cooperation of in-



Work on the atomic bomb project resulted in mammoth plants at Clinton, Tenn. (left), sprawling workers' cities ke the one at Pasco, Wash. (right), whose very existence was the most guarded secret of the war up until this week.

PRIVATE LIFE OF THE ATOM: AN EXPLANATION

Physical energy in its commonest earthly forms—as for instance in the form of heat resulting from combustion of coal—results actually from the rending asunder of matter, just as heat is created when an ax cleaves a block of wood. Molecules are separated from other molecules, atoms from other atoms.

The vastly increased amounts of atomic energy which are released by the new bomb similarly result from the separation of matter, from the fission or splitting apart of the nucleus of the atom itself.

• **Structure of Atoms**—Just how this is accomplished can only be understood, even in oversimplified form, if one understands the structure of the atom.

The atom is in reality a minuscule solar system, so minute that untold millions of them are in the head of a pin. At the core of each system is a nucleus, corresponding to the sun. Revolving around the nucleus, as the planets revolve around the sun (and at distances which are comparable in relation to the sizes that are involved), are electrons.

• **Number of Electrons Varies**—The number of electrons varies with the type of atom. Thus an atom of hydrogen, the lightest of the 92 elements, carries only one electron revolving around the nucleus, while an atom of uranium, which has the heaviest atomic weight, has a planetary system of 92 electrons. In all atoms, the nucleus has a number of positive electrical charges exactly equal to the number of electrons, each of which bears a negative charge. The nucleus of the hydrogen atom bears a single positive charge, and the nucleus of an uranium atom bears 92 positive charges. Thus, all atoms are electrically neutral.

The atomic number of any element is identical with the nuclear charge and naturally tells at once the total number of electrons: Hydrogen is No. 1 in Mendelyeev's periodic table of elements, and uranium is No. 92.

The atomic weight of any element is another measurable characteristic. Atomic weight is expressed in terms of an element's relationship to oxygen, which, with an atomic weight of 16, is taken as the standard. On this scale hydrogen has an atomic weight of 1.008 and uranium of 238.2 (usually referred to just as 238).

In 1932, the English scientist, Sir James Chadwick discovered that the nucleus was made up of particles not all of which had positive electrical charges; some were electrically neutral. These he called neutrons, while those particles that bear positive charges are known as protons.

It was then discovered that the number of neutrons in any element can be determined by subtracting the atomic number from the atomic weight. Thus, in uranium there are 146 neutrons (92 from 328).

• **Isotopes**—Not all atoms of some substances are, however, exactly alike, although they may have the same chemical characteristics and be indistinguishable except in terms of radioactivity or atomic weight. These sports, or variant forms, of the same element are known as isotopes. Chlorine, for instance, is made up of two kinds of atoms. One form of isotope has an atomic weight of 35, the other 37.

• **Atomic Change**—In their natural state, some elements are subject to slow but inexorable atomic change. It was Madame Curie who discovered that uranium over a period of many millions of years disintegrates, that it loses some of its charged particles, both electrons and protons, and is converted into radium. Over another but less lengthy period, the radium itself disintegrates and ends up in the stable form of lead.

It is assumed that this change or disintegration results from a disturbance of the precarious balance between the attractive and repellent forces that the particles within the nuclei of some atoms exert on each other. Like electrical charges, after all, repel each other, and for that reason the closely packed, positively charged protons in the nucleus ultimately split apart. Uranium (No. 92) is the most unstable because it is the most closely packed, and the repellent forces are acting at the shortest distance.

• **Splitting the Atom**—Whatever the cause of this radioactivity—this giving off of radiant electrical charges—there can be no doubt that the process generates terrific amounts of energy or heat—terrific, at least, in relation to the minute quantities of matter involved.

What, then, is the boundless energy that one can expect when an atom is completely split apart?

Scientists have been able to answer that question mathematically as a result of Einstein's mass-energy equivalence theorem, which, reduced to its simplest concept, states simply that mass is energy. Thus, the more dense the mass—the more closely packed the protons and neutrons in the nuclei of its atoms—the greater the quantity of energy that can be released by a given amount of matter.

• **With Slow Neutrons**—Moving from theory into actual experimentation with splitting uranium atoms, scientists tried all of the three uranium isotopes, having atomic weights of 234, 235, and 238, and discovered that only one of these had the necessary quality of instability in a degree that made it possible to split an atom with existing equipment. This was the odd-numbered isotope U-235, for the odd-numbered atomic weights seem always more unstable than even-numbered ones.

The only missile which can be fired at an atom to split it is inevitably a neutron, for all other particles of matter would bear one electrical charge or the other and be correspondingly swerved from their course by uranium's electrons or protons. Only a neutron can be aimed directly at the nuclear target. One of the best ways to get a stream of neutrons for bombarding the uranium nuclei was found by directing gamma or beta rays from radium or radioactive salts against a small plate of beryllium.

Experimentation further revealed that a slow-moving neutron had a better chance of hitting nuclear neutrons than a fast-moving one. To slow down the stream of neutrons, they were passed through a baffle of water or paraffin.

• **Chain Reaction**—All of this machinery to split one atom of U-235 might release 200,000,000 electron volts, but the achievement would be of little consequence as a source of power.

What gives U-235 atom-smashing its terrifying reality in war and its awesome potentiality in peace is "chain reaction." For each of the 143 neutrons in an atom of U-235 that is liberated when the first atom is split becomes a missile that can crack another atom. And its neutrons in turn drive at the heart of other atoms, until eventually all of them are smashed and their vast power is unleashed.

n an isolated New Mexico desert aboratory, J. Robert Oppenheimer, hysics professor (above), assembled he component parts, earned an acco- ade from Secretary Stimson: "The evelopment of the bomb itself has een largely due to his genius."

ividuals, companies, and governments hat marked the wartime development f the atomic bomb. Never has a job so ast and so complicated been carried hrough with less friction.

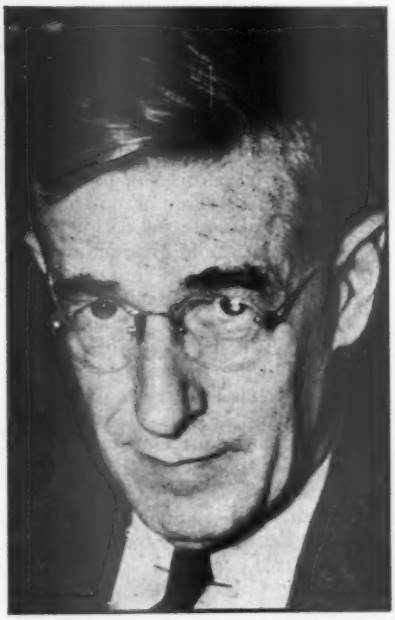
Thousands of scientists in uncounted niversities and technical institutions—Columbia, Chicago, Massachusetts Institute of Technology, Harvard, Princeton, Cornell, Minnesota, Pennsylvania, Illinois, Northwestern, California, California Institute of Technology, and others—pooled their brainpower in a ace of applied science against time and German technology.

• **Thousands Help**—Thousands of corporation executives, engineers, production men, technicians, clerks, and just plain laborers in hundreds of companies gave themselves to the job with a tight-lipped devotion.

• **Lab Stage Outgrown**—The project, which began in New York City—hence the name "Manhattan Project"—outgrew the laboratory stage by December, 1942, and operations were centered at three isolated points.

The first producing works were located on a 59,000-acre tract near Clinton, Tenn., 18 miles west of Knoxville; the new town built for the workers is known as Oak Ridge, population now 78,000. A second production center, the Hanford Engineer Works, was located on a 430,000-acre tract 15 miles northwest of Pasco in eastern Washington; the new town is Richland, population now 18,000. Laboratory and test grounds were located at Los Alamos, New Mexico, near Santa Fe.

• **Builders and Operators**—The first plant at Clinton was designed by M. W. Kellogg Co., built by the J. A. Jones Co., and operated by Union Carbide & Carbon Co. Construction and operation of a second plant involved the cooperation of Stone & Webster Engineering Corp., H. K. Ferguson Co., and Tennessee Eastman Co. The Pasco works were designed, built, and operated by E. I. duPont de Nemours & Co.



Dr. Vannevar Bush, director of the Office of Scientific Research & Development, steered the atomic bomb project from theory to reality.

The list of other companies that have participated in the program reads like the blue book of American business. It includes among many others such firms as Allis-Chalmers; Chrysler; Davison Chemical; Ford, Bacon & Davis; General Electric; Harshaw Chemical; Higgins Industries; International Nickel; and Westinghouse. Some of the participants in the program built whole new plants just to supply the $2,000,000,000 Manhattan Project.

• **A Government Policy**—One circumstance which may expedite the continued cooperation of all American business in attempting to harness atomic energy for peacetime use is the government's action in reserving to itself substantial patent control over the important processes and in naming a committee of government representatives and scientists to control postwar use.

Full disclosure of all scientific and production data, which President Truman has promised, will inevitably stimulate industrial research. Meanwhile, the tight censorship continues.

• **By Parachute?**—The Japanese apparently think the bomb is lowered into action by parachute, and they are probably right. Such an aerial support would slow the missile's descent not only to prevent undue earth penetration and the wastage of explosive force in cratering, but to permit the launching plane to get as far away as possible.

Weight of the bomb is a well-kept secret, but it could run anywhere from the English estimate of 400 lb. or less to an American estimate of 1,200 lb. or more. Weight of the uranium in its warhead is probably no greater than 25 lb., may be no more than 5 lb.

• **Possible Components**—The rest of the weight in the 400-1,200-lb. exterminator could easily be made up of sufficient lead to shield the uranium until its chain reaction is set off by some radioactive source, of a barometric mechanism to hold radioactivity back until a few feet above ground level, of clockwork to set off the explosion, of bomb casing and stabilizing vanes.

Actual detonation could be caused by

A committee which seeks ways of regulating the use of atomic energy has a businessman, George L. Harrison, president of New York Life Insurance Co., as alternate to Secretary of War Stimson, committee chairman.

lifting a lead shield surrounding a pinpoint of radium, radium salt, or other radioactive material which would permit beta and gamma rays emanating from the speck to strike a beryllium target. Far more quickly than the stroke of a single typewriter key, the light metal would throw off neutrons which would impinge on the uranium and start the almost instantaneous chain reaction, or explosion.

• **Big Is the Word for It**—That the plants in Tennessee and Washington are huge may be attributed partially to the probability that vast quantities of ore must be worked to produce a comparatively small amount of metallic uranium, but more especially to the fact that only one part of uranium 140 is U-235, the unstable isotope which is capable of a chain reaction.

BEHIND THE BOMB—A WAR OF RESEARCH

The story of the atomic bomb—a story packed with drama once you have grasped certain basic concepts of atomic science (page 16)—began at the University of Rome in 1934. The neutron or uncharged particle at the core of the atom had just been discovered by Sir James Chadwick in England.

In Rome, a young Italian physicist named Enrico Fermi began an effort to break up atoms by bombarding them with free neutrons. He exposed to such bombardment atoms of practically all of the 92 elements.

• **New Elements?**—As a result of this experiment, he reported that he had uncovered a large number of the radioactive substances. Each of these he considered to be an element just one unit higher in atomic number than the atom from which it was derived. For a significant example, he reasoned that, from the bombardment of uranium, element No. 92, he had obtained a No. 93 in the new radioactive element that resulted.

Then, in 1936, three scientists in Germany Drs. Hahn, Strassman, and Meitner—the last a woman—went to work along similar lines. After an extensive series of tests, in which they experimented with various types of radiation and the use of both fast and slow neutrons, they concluded that the bombardment of the three uranium isotopes transformed each of them into a heavier "transuranic" element. To take care of their findings they called into service elements of atomic number up to 97.

• **Not New**—Two years later, in 1938, two more scientists, Drs. Curie and Savich, struck—and muffed—a hot clew to what was really happening in the uranium bombardment. They reported the discovery of a new "active body" in uranium; that they had got a substance which "differed slightly" from lanthanum, an element very close to barium in the periodic table.

Meitner and Hahn followed the clew, repeated the experiments, and found on test that the element was barium itself.

• **What It Meant**—About that time, Dr. Meitner was ordered out of Germany as a "non-Aryan." En route to Stockholm, she pondered the significance of the fact that barium has about half the atomic weight of uranium. Could it be possible that the bombardment of uranium by slow-speed neutrons was splitting its atoms into two nearly equal halves? She knew that what makes elements differ is the differing number of positively charged particles or protons in their nuclei or cores. From mathematical calculations, she decided that the uranium atom, containing 92 positive particles had, indeed, been broken into two parts, becoming barium (with 56 protons) and krypton (with 36).

By following the mathematics of Einstein's mass-energy equivalence concept (page 16), Dr. Meitner came to the tremendous conclusion that this 56-36 split released energy of the order of 200,000,000 electron volts per atom—5,000,000 times the energy released in the burning of an atom of coal.

• **Historic Cable**—When she arrived at Stockholm, she telegraphed the essence of her findings to a nephew in Copenhagen, Dr. Otto R. Frisch, former assistant to one of the world's leading atomic experts, Prof. Niels Bohr of Denmark.

Prof. Bohr was in America at the time—January, 1939—carrying on investigations at Princeton with his colleague, Dr. Einstein, and working at Columbia with Dr. Fermi, who had gone there from Rome as a refugee from Italian Fascism.

• **Verifying It**—Bohr and Fermi, without knowing the full details of Dr. Meitner's calculations, followed the clews of the cable to the same conclusions. They immediately called a conference of atom-smashers at Columbia, including Prof. J. R. Dunning and Dean George B. Pegram. Using Columbia's giant cyclotron, these men verified the discovery on Jan. 25, 1939.

Later the official records reported that Dr. Frisch had successfully run the same verifying experiment in Copenhagen several days before Fermi and Dunning. (In some quarters there is a disposition to discount the contribution of Dr. Meitner and the importance of the followup work at Columbia and to give Dr. Hahn credit for the discovery of atom fission on the basis of his original barium-producing experiments.)

• **By a Narrow Margin**—While the Axis lost Dr. Meitner and Dr. Fermi, it is believed that Hahn unquestionably continued his researches under the Nazis. The story that they dropped one crude atomic bomb in France with disastrous results to themselves cannot be checked, but certainly they missed success by a narrow margin. Only history can tell whether their failure must be laid to lack of time, money, and scientific talent; to the British commando raid on the German atomic laboratory at Rjukan in Norway; or to the air raids on the main German plant at Peenemuende.

Also for the future remains the job of checking the report that Curie worked on the problem in Paris during the Nazi occupation and experimented with smashing the atoms of a large-sized piece of the element thorium—so large a piece, that if he had been successful, the entire city might have been destroyed.

• **Behind the Veil**—Censorship veils the continuation of the research in the United States, notably the work of Dr. Robert J. Oppenheimer of the University of California, whom many credit with the major contribution to the job of putting chain atomic reactions into usable form. Oppenheimer was associated with Dr. Ernest O. Lawrence, whose research in Berkeley along the same lines as that of Hahn and Meitner started about the same time as theirs.

Censorship does not obscure the fact that the research which has now produced the atomic bomb had to be sold to President Roosevelt before government and military leaders took it up; then it became a top priority project.

irst Peace Treaty—What It Means

Significant lines in the pattern for a final settlement of the r issues are revealed in the plans that were drawn up at tsdam. Business must begin to reckon with the economic conse- ences of the changes that the conference has started.

The road that Europe has taken from tsdam is of concern to the whole rld. The road map that the Big Three w is even more complex than it ms, but, for the businessman, the mises and problems that it reveals be grouped under a few key heads.

DEINDUSTRIALIZATION

In order permanently to eliminate rmany's war potential, the Big Three e drawn up a program which—if it be successfully carried out—decrees death of the Reich as a major wer.

More important, though it is not fully lized yet, the plan inevitably forces ropean trade into new channels, ich is bound to create tremendous ercussions on neighboring countries d on the U. S.

Plants to Close—The directives are ar, but the lack of detail makes full praisal of the results impossible.

Effective at once, the war-producing dustries—aviation, shipbuilding, and munitions plants—are closed and will dismantled.

Mills and factories producing metals, emicals, and machinery are placed under rigid control. Many will be dismantled and allocated as reparations among the Allies.

• **Standard of Production**—The standard of living is to be reduced to the average for Europe—excluding Britain and Russia (page 21).

Only enough industry is to be left in the Reich to meet the production requirements of the occupying forces and to maintain the German population at the reduced postwar peacetime level of living decreed by the victors.

• **Down 50%?**—No one of the Big Three has indicated the basis for determining how much industry must be removed to pull Germany's level of living down to the average for Europe. But if prewar relations may be taken as a guide, the standard must drop nearly 35%. This means that manufacturing as a whole, since it is the main factor in the elevation of living standards, must be reduced by 50% or more—and heavy industry most drastically.

A key decision rests with the British, since they are controllers of the richest industrial zone. Although operating policies are supposed to be uniform for all zones, the Potsdam agreement leaves each of the occupying powers much leeway in its own zone. How far Britain will be willing to go in dismantling the Ruhr is one of the questions Potsdam leaves unanswered.

What is going to happen to industries which obviously have no war potential in themselves: textile mills, ceramics factories, household electric equipment manufacturers, the optical industry? Germany specialized in these lines before the war. Are some of them going to be expanded to absorb a part of the workers from the aviation plants, shipyards, steel mills, and chemical factories? Or will the control powers refuse to allow this because of the competition with their own industries?

• **More to Feed**—What will seriously complicate readjustment from industry toward agriculture is the territorial and population settlements made by Potsdam in the East. Germany must reabsorb within its shrunken postwar borders those Germans who must move out of lost territory. There are more than 8,500,000 in the areas to be ceded to Poland, another 2,500,000 to 3,000,000 in the Sudetenland, and perhaps as many as another three millions scattered through eastern Europe.

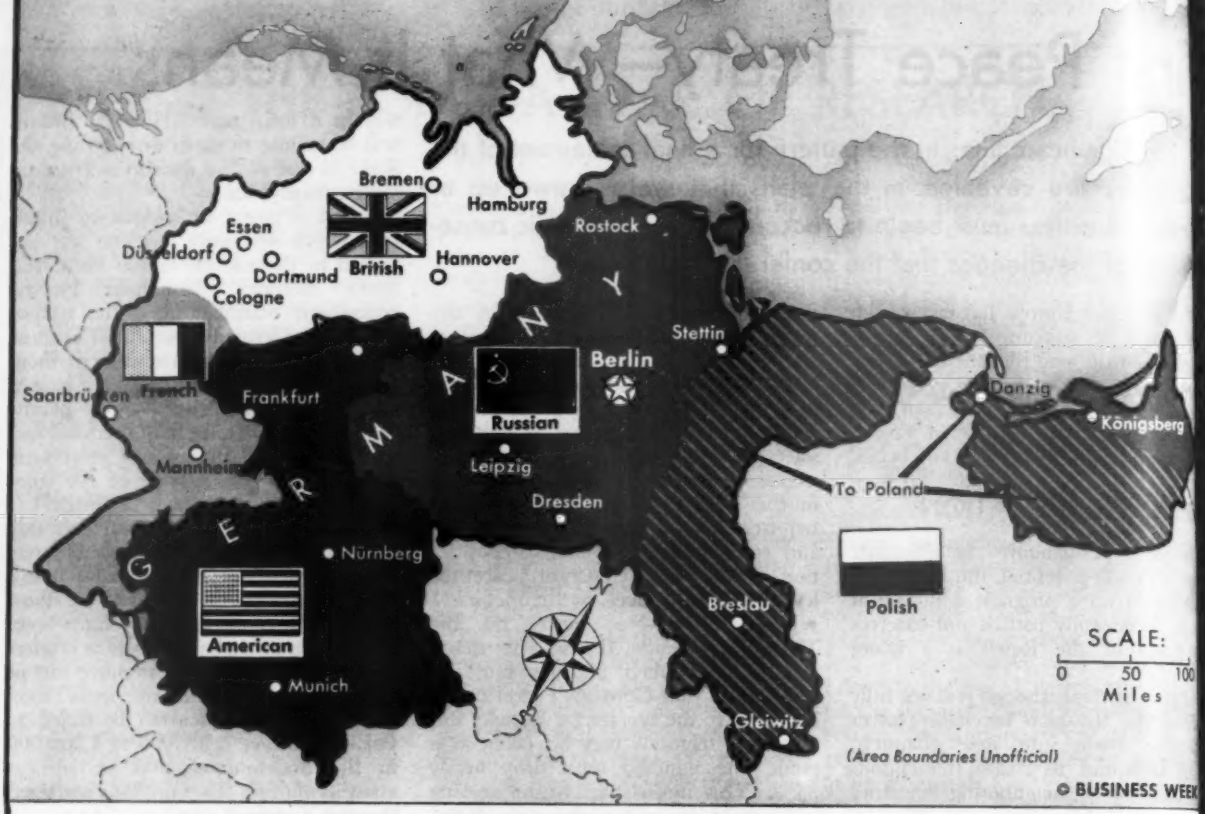
Germany, even before the war, was 20% short of self-sufficiency in food, Now it will be forced to feed millions of additional people from an area producing 25% less foodstuffs. At prewar output, the remaining area will be only 60% self-sufficient for the expanded population.

Actually, Allied countries will suffer

he council which will shape Europe's destiny to the Potsdam pattern (left to right): U. S. Secretary of State Byrnes, itish Foreign Secretary Bevin, Soviet Foreign Commissar Molotov, French Minister of Foreign Affairs Bidault, and hinese Foreign Minister Wang. It will take up its first problem—Italy—on Sept. 1, in London.

THE POTSDAM MAP OF GERMANY

Who got what out of the division of territory and resources among five powers



Percentage Distribution by Areas

	United States	United Kingdom	France	Russia	Poland
Area (176,800 sq. mi.)	25	22	6	27	20
Population (68.6 million)	22	24	10	32	12*

Production of Key Commodities

Coal (Bituminous) (184.5 million metric tons)	74		7	3	16
Steel (28 million tons capacity)	1	71	5	5	18
Cattle (18.5 million head)	31	26	6	22	15
Pigs (22.8 million head)	19	31	4	27	19
Rye (6.9 million tons)	20	19	1	33	27
Oats (5.9 million tons)	19	25	5	31	20
Potatoes (55.3 million tons)	19	16	6	33	26
Sugar Beets (15.7 million tons)	7	19	4	42	28

* This population to be repatriated

ith the Germans, at least during the st years of readjustment. For Hol-nd, Belgium, and France, Germany as traditionally a key market and sup-ier. Denmark thrived on the sale of s food products to the industrial nters in Germany and Britain. All stern Europe drew heavily for its nufactured supplies on the great ex-rting firms in the Reich.

REPARATIONS

In the next six months—or by the nd of next January—much of Ger-any's industrial plant is going to be ken out of the country as reparations. nd in two years the transfers must e completed. If the terms of the otsdam accord can be carried out, ermany, by January, 1948, will be ripped down to its "approved post-ar peacetime needs."

Russia will settle its first claims by moving machinery and equipment it ants from eastern Germany. By greement, Polish claims will be set-ed from the Soviet share.

The western Allies will satisfy their ajor demands from the rich control ones in western Germany. But 25% f the equipment to be removed from heir areas is subject to further claims y the Russians, 10% as straight rep-rations. For the other 15%—which is o come mainly from the metallurgical, hemical, and machine manufacturing ndustries—the Soviets must provide heir Allies' zones (over a five-year eriod) with an equivalent value of ood, coal, potash, zinc, timber, clay roducts, and petroleum products.

This means, then, that the Soviet Union gets nearly half of the German eparations-in-kind, as was hinted im-mediately after Yalta.

In addition to the industrial equip-ment, Germany must turn over all its old to the western Allies, and must re-inquish to Russia all of its foreign assets n eastern Europe, to the western Allies all those in the West, with each Ally automatically retaining German ssets already in its hands (something bove $250,000,000 in the U. S.)

Actually, though more than $500,-000,000 in gold is believed to have een captured in Germany, practically ll of it is loot snatched from the coun-ries overrun and is destined now to be eturned to the owners.

Germany's prewar foreign assets are stimated at barely $1,000,000,000, not much in the reparations bill. However, t will be another story if neutrals like Switzerland, Sweden, Spain, and the dubiously belligerent Argentina can be induced to force the disgorgement of skillfully camouflaged German accounts nd property holdings, now believed to be cached within their borders.

Long one of the most exciting sub-jects of the reparations debate, labor is not formally mentioned in the Potsdam pact. However, German pris-oners are still being used as labor in both the East and the West, presumably as a military matter under the Geneva convention, and future arrangements for undertaking a civilian levy are not ruled out. But any labor reparations are likely to be pretty much on a zonal basis.

Reich Living Standard Decreed by Potsdam

One of the critical principles laid down at Potsdam is "to maintain in Germany average living standards not exceeding the average of the standards of living of European countries" (excluding Britain and the U.S.S.R.).

Below are the estimates of prewar real income in international units per capita, compiled by Prof. Colin Clark.* The exactness of any single figure would probably be open to question by other statisticians, but the table as a whole is a rough and ready guide to prewar living standards. (Incidentally, Britain would head the list, and Russia would rank near the bottom.)

Salient conclusion is that average income in prewar Europe outside of Germany was but 60% to 65% of the Reich's—implying a relative cut for Germany of 35% to 40% if the Potsdam principle is fully carried out.

Switzerland	455
Sweden	367
France	358
Denmark	347
Germany-Austria	343
Holland	335
Belgium-Luxembourg	315
Norway	279
Spain	260
Finland	200
Czechoslovakia	161
Hungary	161
Italy	158
Portugal	125
Poland	117
Balkans	102

* Colin Clark; The Economics of 1960.

III UNIFIED CONTROL PLAN

While decentralizing Germany considerably, the treaty makers were forced to admit that—for certain purposes—its 70,000,000 people must be handled as a whole.

• **Common Policies**—Thus the Potsdam accord decrees that the occupying powers establish common operating policies for the handling of mining and industrial production and allocation; agriculture, forestry, and fishing; wages, prices, and rationing; imports and exports for Germany as a whole; currency and banking, central taxation and customs; repatriation and removal of industrial war potential; transportation and communications.

But it is one thing to lay out such a program, another to enforce it.

Will the French, with covetous eyes on the Saar and other rich provinces in its control, willingly see import duties set at a level that would give Britain, or Belgium, or the U. S. a chance to outbid France on materials that it could supply its own control zone?

Will Russia, in its dominantly agricultural zone, be willing to hold prices and wages in line with those of western Germany if this sets a level higher than in the Soviet Union?

Will Belgium willingly allow freight to move from its zone to Dutch or Belgian ports when it might be shunted to British bottoms through one of such British-controlled ports as Hamburg?

• **Friction Points**—Skeptics doubt that these provisions for centralized control can be made to work without serious friction among the various Allied Control Councils which are to operate through a joint coordinating group stationed in Berlin.

IV TERRITORIAL PROBLEMS

Finland, Estonia, Latvia, Lithuania, Poland, Czechoslovakia, and Rumania are already committed to territorial losses as a result of this war. (The three Baltic states are completely obliterated as sovereign governments.) However, the only territorial change outlined in any detail in the Potsdam pact is the adjustment of the German-Polish boundaries.

The return to Russia of most border areas lost after the World War is apparently accepted as a result of the Yalta conference of the Big Three.

• **What Poland Gets**—Only Poland is to receive compensation. It will get this at the expense of the Reich for the cession to the U.S.S.R. of eastern Poland, roughly to the old Curzon line.

East Prussia—home of the Junkers and base of a thriving lumber economy—goes to Poland except for a corner in the northeast which will be held by Moscow in order that the Russians can have the port of Koenigsberg as their westernmost naval base in the Baltic.

Danzig, one of the major tinderboxes of prewar Europe, controlling the mouth of the Vistula River (the Mississippi of Poland), is turned over to the Poles and will undoubtedly become the

shipping center of the new Polish republic.

• **Strings to the Gift**—Richest prize for the burgeoning new government in Warsaw, however, is the promise of all of Germany east of the Oder river, a region which includes more than 20% of prewar Germany's territory, Hitler's "Little Ruhr"—centering around Breslau in Silesia—and some of the best farm lands of the old Reich.

But there are strings attached to the gift—at least temporarily. While the new Polish government has the right to organize the territory at once as part of Poland, Russia has first claim on reparations out of the region, and the Poles ultimately will be made mainly responsible for the transfer of Germans out of the zone and the orderly settlement of Poles in the evacuated farms and cities. Since more than 8,500,000 Germans live in East Prussia and eastern Germany, the move becomes the largest transfer of population in history.

• **Silesia in Doubt**—What Russia will demand in the form of reparations from Silesia remains in doubt. Reports of operations since the region was captured indicate that Russian operators are in control of all the principal mines and factories but that representatives of the new Polish government are beginning to be incorporated in the management. It is possible that Moscow will decide to exact its reparations in the form of finished products. This would obviously help to cement present friendly relations between the new Polish provisional government and Moscow, and would assure the U.S.S.R. of an economically strong ally.

As far as Poland is concerned it will have gained importantly in the exchange of territory. In place of the farmlands (part of them swampy) recently returned to Russia, Warsaw gets a rich industrial zone which will provide a more balanced economy and a broader base for trading with the rest of the world.

• **Italian Question**—Further territorial issues will arise as soon as the Council of Foreign Ministers begins its deliberations in London in September, for one of its first duties will be to draw up the peace treaty for Italy, including dismantling Mussolini's Italian empire, and probably making territorial concessions in the Adriatic to Yugoslavia.

The Soviet government proposed at Potsdam that the former Italian colonies be put into the United Nations trusteeship system in line with decisions reached at Yalta, but the matter was referred to the council.

Since Yugoslavia is not mentioned in the agreement, there is no indication yet as to whether Tito's demand for the ports of Fiume and Trieste will be granted. Russia is said to have backed this as one way of providing additional outlets for goods from the satellite nations in eastern Europe.

Peace treaties for Rumania, Bulgaria, and Hungary will come up for discussion after the Italian treaty is completed and will call for adjustments covering parts of Rumania handed to Hungary by the Nazis, and Bulgaria's demands for seaport on the Aegean through territ now controlled by Greece.

• **Setting a Policy**—As in other fiel Potsdam provides no final answer dozens of unsolved problems. It mer determines general policy and create permanent organization charged w drawing up individual treaties and s gesting solutions to problems whi ultimately will be handed to the Unit Nations organization for final approv

V ISSUES WITH RUSSIA

A long list of problems which mig be labeled "Issues with Russia" are ta fully omitted from the Potsdam pact b not from the minds of its frame After the Council of Foreign Minist establishes its technical staffs, it m tackle the job of ironing out these issu

• **Russia's Pacific Role**—Heading th list, though at too high a level to be ha dled by any but the Big Three the selves, is the detailed plan for Russi participation in the Japanese war.

Obviously outlined at Potsdam part of a squeeze play—along with th utilization of the atomic bomb—to for Tokyo into a quick capitulation, the pa tern of Allied-Soviet strategy, now th Moscow has declared war, will unfol only when it is clear whether Japa will yield immediately or face a show down in Manchuria and in an invasio of the home islands.

• **Tension in Iran**—Iran is high on th list, because of the constant dread th

In the Saar, the sprawling Oppau works of I. G. Farbenindustrie—chemical trust which was the hub of Germany's basic industries—typifies the kind of German plant which will be controlled under the Postdam agreements.

Improved Rocking Chair.
U. S. Pat. No. 92,379,
granted 1869. Patent description
supplied upon request.

All the comforts of air-conditioning

t back and rest your bones in a
al piece of furniture! This one has
built-in breeze . . . fanned by a
ellows beneath the seat as you
ck gently to and fro!

Chances are, however, that you'd
ther do your rocking in a less
ntastic model. Frankly, so would
e. We're for the *simple way* of
oing things . . . whether it's merely
tting down, or making out a com-
any payroll.

To do the latter, we've devised a method that is completely streamlined, start to finish. It's called the Comptometer Check-and-Payroll Plan. And it reduces your department's paper-work writing down to *one* short form.

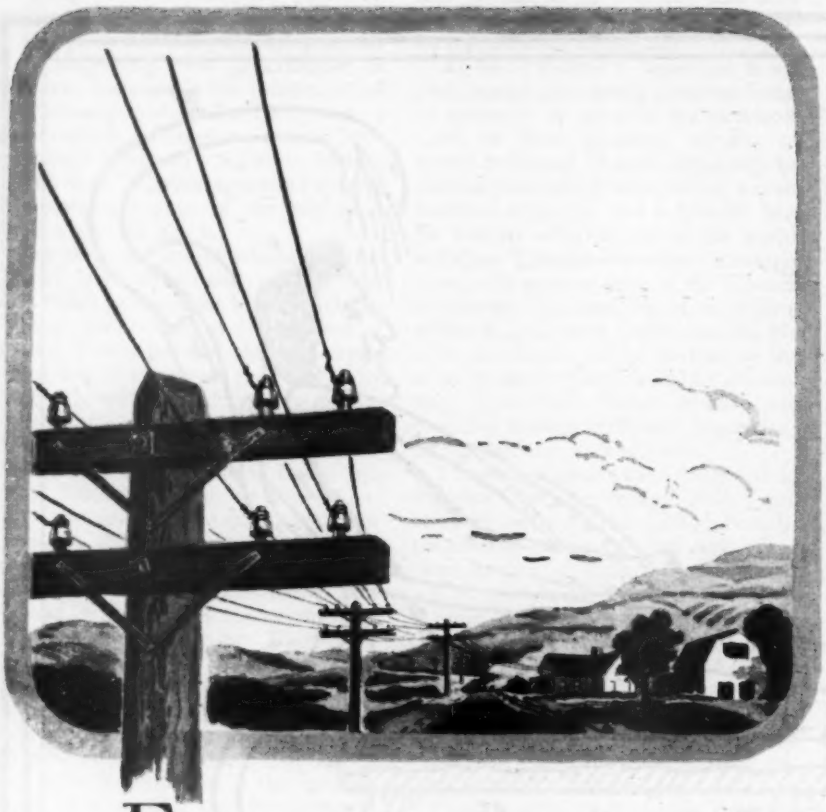
It's easy to see why the system is *fast*. Employees can be paid within a remarkably short time after the payroll's begun. It's easy to see why it's *economical*. No unnecessary details. No ever-present manpower problem. No idle machines that only work one day.

You'll agree, such a plan deserves a closer look. Why not get in touch with your nearest Comptometer Co. representative? The Comptometer, made only by Felt & Tarrant Manufacturing Co., 1733 N. Paulina St., Chicago 22, Ill., is sold exclusively by the Comptometer Company.

COMPTOMETER

REG. U. S. PAT. OFF.

Adding-Calculating Machines and Methods



Farm is an old-fashioned word for it

IT'S an industrial plant today. Electric power has meant increased production of milk, butterfat, and eggs...lower operating costs in poultryhouse and dairy...greater convenience and cash-income for farmers.

From milk cooling and chick brooding to lighting and watering, there are over a hundred applications of electricity to farm jobs. Any wonder, then, that farming is one of the great *new* markets for copper?

No other commercial material, of course, combines the high *electrical* and thermal conductivity, the ready workability, strength, and resistance to corrosion of copper and its alloys.

In purchasing (or manufacturing) any new product, consider the fact that there is no complete substitute for copper, one of the oldest of metals. And that one of the leading producers of copper products today is CHASE. Chase Brass & Copper Co., Incorporated, Waterbury 91, Connecticut—Subsidiary of Kennecott Copper Corporation.

For your convenience Chase maintains 25 sales offices (20 with warehouse stocks) in principal manufacturing centers throughout the country.

Chase
BRASS & COPPER

Moscow and London will come to h
over rights that either may attemp
exact in its sphere of influence.

Agreement this week to with
their troops from its capital; tho
the Anglo-Soviet-Iranian pact stipul
that they might remain until six mo
after the war, is an encouraging o
Nevertheless, Britain's vital oil hold
in the south and Moscow's privile
position in the north make Iran a
tinuing tinderbox.

• **Access to Mediterranean**—The q
tion of opening the Dardanelles ha
ready been raised by Russia, along
the settlement of an old border disp
with Turkey in the southern Cauc
mountains. The U.S.S.R. will alm
certainly be given free access from
Black Sea, through the Dardanelles
the Mediterranean. At the same ti
Russia will ask—and probably be gran
—participation in some new inte
tionalized control of Suez and
Strait of Gibraltar.

• **The Arab Problem**—The issues
Syria, Palestine, and the whole A
world may blow into the limelight
day. Jewish leaders have already c
fronted the new Labor government
London with a demand for mass mi
tions of Jews to Palestine from Euro
The Arab confederation is solidly
posed to this.

Both sides have been acquiring
hiding arms picked up from All
troops quartered during the war in
Near and Middle East. Should
problem flare into war, Russia unqu
tionably will demand a word in
settlement, though London and Wa
ington have so far managed to keep
issue out of Big Three hands.

• **Persian Gulf Oil**—Since the oil of
Persian Gulf area is the key stake in
region, Britain and the U. S. are ob
ously avoiding trouble as long as possi
in the hope that local conditions can
straightened out and their bargain
position improved. Ultimately, h
ever, the whole issue of world oil m
be settled on a Big Five—and later
United Nations—basis.

• **Other Irritations**—Other commerc
problems have caused behind-the-scen
friction with Moscow.

British and U.S. oil interests ha
resented the reported removal of th
oil-well and refinery equipment fr
the rich Ploesti fields before questio
of compensation could be discusse
Also they resent now the report tha
new pipeline from the Rumanian
fields will soon be carrying oil to t
Soviet Black Sea port of Odessa thou
no agreement has been made with t
British. American, and French own
of more than 85% of Rumania's oil p
duction. American firms and indiv
uals own properties in the Soviet-dom

The myths are a mile from the truth about HEART DISEASE

TO EMPLOYERS:

Many of your employees may be relieved to know these facts about heart disease. Enlarged copies of this advertisement — suitable for posting on your bulletin boards — will be gladly sent by Metropolitan at your request.

MANY myths and false beliefs have caused misunderstanding of the words, "Heart Disease." Doctors say *this* results in nearly as much trouble as the disease itself.

Truth, based on modern medical science, replaces doubt with facts . . . bringing new hope and comforting reassurance to all who have been worried about their hearts.

If you have the symptoms, you *must* have the disease.

Myth #1

That's not true! Such symptoms as pain or a feeling of oppression in the chest, shortness of breath, rapid or irregular heartbeat, *may* be signs of heart trouble, but frequently come from other sources.

Consult your doctor if these symptoms occur. His diagnosis, aided when necessary by the fluoroscope and electrocardiograph, may enable him to reassure you that you do *not* have heart trouble.

If you're going to get it . . . you're going to get it.

Myth #2

That's not true! Everyone, particularly those over 40, can do much to forestall heart disease by following these rules:

1. Exercise regularly, but moderately. **2.** Keep your weight down. If overweight, *bring* it down. **3.** Get plenty of sleep—8 hours a night for most people. **4.** Eat moderately. Be moderate in use of tobacco or stimulants. **5.** Have a yearly examination by your doctor. Follow his advice.

If you have heart disease you will be a permanent invalid.

Myth #3

That's not true! Thousands of people who have heart disease are leading useful and nearly normal lives by following their doctor's advice.

There's a lot of truth in the expression, "To live a long life, start taking care of a bad heart early."

For helpful information concerning your heart, send for Metropolitan's free booklet, "Protecting Your Heart."

COPYRIGHT 1948—METROPOLITAN LIFE INSURANCE CO.

Metropolitan Life Insurance Company

(A MUTUAL COMPANY)

Frederick H. Ecker, CHAIRMAN OF THE BOARD

Leroy A. Lincoln, PRESIDENT

1 MADISON AVENUE, NEW YORK 10, N. Y.

HAND-GUARDS ARE SAFEGUARDS

GUARDING THE WORKER, increasing production, effecting economies . . . JOMAC INDUSTRIAL GLOVES.

The cost-records in leading American industries are demonstrating the efficiency-achievements of Jomac Gloves. Workers' hands are being protected against injuries and burns. Production is being stepped-up. And the *long-wear* and *washability* features of Jomac Gloves offer ECONOMY, too. They are lock-stitched to give up to 7 *times more wear* than ordinary work-gloves.

Write for the complete story of Jomac Gloves. C. WALKER JONES CO., Philadelphia 38, Penna.

THREE TYPES OF JOMAC GLOVES
- Regular Industrial Type
- Heat- and Flame-Resisting
- Safety Gauntlet-Cuffs

nated region of eastern Europe worth $775,000,000 (BW–Jun.9'45,p117).

• **Criticism Curbed**–When the final peace treaties involving individual countries are framed by the Council of Foreign Ministers, these issues will undoubtedly come up for consideration. Meanwhile, criticism is held to a minimum while the machinery for settlement is being set up and the problems of the world are being assigned their priorities on the agenda.

VI CONCLUSIONS

Potsdam provides the first faint picture of the new world order which the United Nations have promised to create and enforce.

It is grim; it is bold; it is incomplete.

• **Fixing the Pattern**–The Potsdam program is no full-dress peace treaty, not even for Germany. Rather it is a rough blueprint showing the principles to be followed in working out concrete treaties with each vanquished nation and the way in which they will be negotiated. Only when the Council of Foreign Ministers begins to operate can we begin to fill in the details of the plan for a new world; only when the nations prove over the years that they can plan and work together on such a vast scale can we be sure it is a success.

For Germany, Potsdam spells doom as a great power–both politically and economically. The second industrial nation in the world is to be turned into a dominantly agricultural country with a standard of living considerably below its prewar level.

• **Questions for the Future**–But for most of the rest of the world, Potsdam is a challenge.

Can the nations agree on the vast political and commercial cooperation necessary to force so big a war culprit into a new way of living?

Can Europe adjust itself to this loss of a great neighboring market which must result from the enforced lowering of the German standard of living?

Can masses of people be transplanted and fitted into new and arbitrary borders?

And does the disregard for the traditional distinctions between government and private property revealed in the "repatriation" of populations and the assessment of national indemnities mean a weakening of the capitalist concept?

Will the deliberate centralized control of another huge economy militate against the free enterprise system in other parts of the world?

Potsdam raises these questions, and many more. Only time and the ingenuity and sincerity of the United Nations can provide the answers.

New New Englan

Stronger campaign to lu new industries urged by critics regional council in effort to offs loss of wartime contracts.

As cancellations advance, industri communities make more pressing d mands on organizations seeking cushion the shock of reconversion a to keep smaller plants alive. New En land is especially concerned becau it is predominantly an area of sma and medium-sized manufacturers. Th Yankee plant owner has two region groups which offer aid–the veteran Ne England Council and the struggli New England Industrial Developme Corp., both having headquarters Boston.

• **New Emphasis Wanted**–Stimulate interest in the two organizations has turn brought provocative comment fro manufacturers faced with grim com petition from oversize rivals in the We and South. Nobody denies that th New England Council has done a jo on historic shrines and other touri lures (BW–Dec.2'39,p23). But critic charge that it has been less effective defending Yankee industries and coa ing in new projects needed to maintai payrolls.

They admit that selling of scen beauty is desirable but add that mor emphasis should be put on skilled labo proximity to the biggest consumer ma ket, and ever-flowing rivers that appe to the industrial engineer as well as th canoeist. (A New Hampshire busines man took a picture of the Old Ma of the Mountain off his letterhead aft a western customer had cracked, "Al you got in New England is snow an scenery.")

• **Council Defended**–Defenders of th council point out that it has an outsid consultant who handles industrial pros pects, that inquiries are passed along t the six state development organization or the utility companies and railroad directly interested, and that the coun cil's industrial research group is inac tive largely because of war demands o its prime mover, Dr. Karl T. Compton president of Massachusetts Institute o Technology.

Since the same business interests back the efforts of the council and the New England Industrial Development Corp., the surface is serene with correct Bosto manners. When the altitudinous and bristle-browed Dudley Harmon, executive head of the council, meets the less awesome William L. Stoddard, N.E.I.D.C. president, polite hellos are

We can get you out...

If you feel barred from the use of stainless steel, come to Rustless for the keys to its kingdom. For example, we know what grade to use for refrigerator shelves, how to weld it, how the final touch of uniform everlasting brightness is given by electro-polishing, where to buy these sales-assisting shelves if you do not care to make them in your own plant. We can show you how easy it is to add to your product the permanent stainless assets of brilliant beauty, strength with lightness, and long-time economy. Because we concentrate on stainless steels and have no other interests, we have learned much about machining, forging, heat treating, other fabricating processes. This knowledge will set you free to modernize, improve your line. Just write Rustless Iron and Steel Corporation, Baltimore 13, Maryland. Sales offices in principal cities, distributors everywhere.

Producing Stainless Steels Exclusively

Rustless

Frontiers TO SPARE

Are you one of those who believe that America has reached her "Last Frontier"? If so, we invite you to take a look at Alabama.

Here is a goodly land — where every factor is present for the building of the highest prosperity that civilization has yet known. Fertile soils, vast forests, unbelievable mineral wealth and other natural resources in variety and abundance beckon to those in quest of wider fields of opportunity.

The Seaboard Air Line Railway, too, is imbued with the spirit of the pioneer. We have a kindred feeling for those who are seeking new worlds to conquer.

If you are looking for frontiers of new opportunity, we say: "Raise your sights. Take a look at Alabama."

Buy more **WAR BONDS!**

SEABOARD

AIR LINE RAILWAY

THROUGH THE HEART OF THE SOUTH

If you want a reprint of this advertisement, in full color, write Seaboard Air Line Railway, Norfolk, Virginia

swapped. But there is plenty of snip behind the scenes.

• **Filene Idea**—Important among t original promoters of both organizatio was Lincoln Filene, Boston's fam merchant. While his late brother, E. Filene, buried himself in social a international policies, Lincoln File managed their huge store and in h leisure moments worried about the f ture of New England industry.

Lincoln Filene had originally urg that the New England Council devot large portion of its energies to entic new industries. Dissatisfied with the r sults, he godfathered a new organiz tion to do that and nothing else. Fi move came in 1929 but the big slum intervened and the corporation w allowed to lapse. Filene persisted a in 1940 established the New Engla Industrial Development Corp., of whi he remains the chief angel.

The N.E.I.D.C. was created to pr vide on a regional scale the aids small new industries which were afford locally by the Industrial Corp. of Bal more and the Louisville Industri Foundation (BW—Jun.3'44,p76). F ture plans call for the establishment state and city groups to work with th N.E.I.D.C. Among the interests re resented on its board and advisory co mittee are banking, insurance, man facturing, engineering, railroads, bu ness associations.

• **Industry Aided**—Wages paid in sm plants (those employing up to 500) a 60% of all New England industri wages. Here is the field the N.E.I.D.C cultivates. Its object is to locate inve tors, companies needing aid, compani considering relocation and to put the in touch with agencies which c straighten out their financial, enginee ing, management, production, distrib tion, and other problems.

The N.E.I.D.C. is a nonprofit orga ization but it gets paid for its work. common fee is $100 though charg vary with the amount of effort require The organization usually calls in outsi technicians. It gets much assistan from New England engineering societi and schools, especially M.I.T., Harva Graduate School of Business Admini tration, and various groups at Yale.

• **Ideas Solicited**—Younger industri regions are apt to forget that Yank inventions and Yankee plants were th original fonts of American industri power. New England ingenuity still in a state of vigor. Patent attorne pass along to the N.E.I.D.C. inventor with promising hunches and the orga ization even advertises for ideas in Bo ton papers.

It is a tribute to Yankee stability th few crackpots have been flushed. Th nearest the applicants have come to

ck Rogers fantasy was the proposal an aged inventor (with a solid record) o wanted $4,000 to build an experintal apparatus for harnessing the wer of sea waves. A group of coldooded engineers thought enough of proposition to offer technical aid.

Case Studies—Typical cases handled the N.E.I.D.C. include:

(1) Two young men with a canned food business found orders greater n their $750 capital could supply. e N.E.I.D.C. arranged additional pri- capital and provided consultants the company which now employs up 100 and has annual sales of $150,000.

(2) In changing from a craft to ight line production, a 100-year-old mpany making surgical instruments into trouble which threatened bankptcy. The Development Corp. furhed a part-time consultant who lowd costs, increased production 300%.

(3) A company which over-expanded chine-shop facilities in expectation war orders was rescued by the Deopment Corp. which helped secure right type of contracts, enlisted per shop supervision, is now develop- products for peacetime markets.

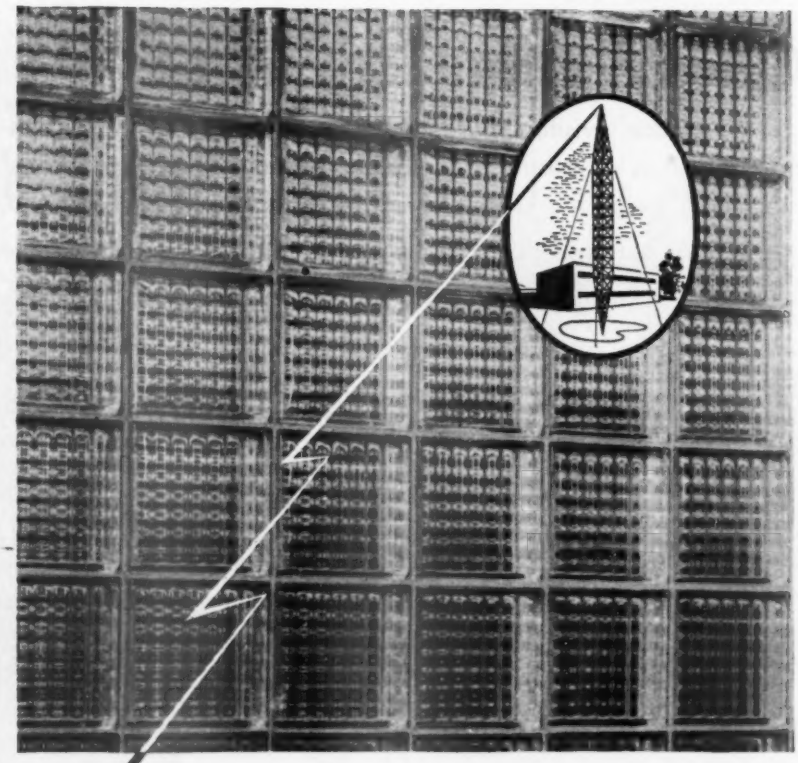
(4) Besought by community inter-, the Development Corp. aided in establishment of a toy manufactur- company. First year volume was 0,000. Business is locally owned, s mostly local labor and material.

Indorsed by SWPC—The federal aller War Plants Corp. gave promince to the N.E.I.D.C. in a study of elopment organizations made last uary.

It noted that the New England body erated with a small staff on a budget $20,000 a year, one-half of which s covered by fees. The SWPC ought the N.E.I.D.C. a type which uld interest other parts of the coun- and opined that New England conatism was one reason why it hadn't ade faster progress.

The two older development setups e a happier financial record. The uisville Industrial Foundation was corporated in 1916 with a $1,000,000 pitalization. Its investments (long- loans to small enterprises) were 92,000 in 1943. Revenues for that r were $46,600.

The Industrial Corp. of Baltimore s formed 30 years ago with an origil capital of $100,000 which was ubled later. At first its funds were t into new enterprises but after $22,-0,000 of outside money had been ested as a result of the corporation's orts, it stopped direct participation d called in its stock. As G. Harvey rter, executive vice-president reked: "Small business needs more nsel than cash."



THE NEWS GETS AROUND

GOOD news travels fast. That's why most people already know how attractive and practical PC Glass Blocks are.

They know that PC Glass Blocks distribute generous floods of daylight over wide areas. But not all of them fully realize the other important advantages of glass block panels.

The insulating properties of PC Glass Blocks lessen heat losses through lighting areas, ease the load on air-conditioning and heating equipment.

An integral part of the wall, PC Glass Blocks prevent infiltration of chilling drafts, gritty dust. They exclude unpleasant sights, dampen disturbing sounds.

The smooth, flat surfaces of PC Glass Blocks are quickly and easily kept clean. They do not break readily, rarely if ever need repair or maintenance.

Thinking of building or remodeling when, as, and if? Then start now to find out how people all over the country have insured added style, comfort and economy in homes, offices, stores and factories by using PC Glass Blocks.

PITTSBURGH CORNING CORPORATION

ROOM 760, 632 DUQUESNE WAY, PITTSBURGH 22, PA.

• Also makers of PC Foamglas •

PITTSBURGH PC CORNING GLASS BLOCKS

Distributed by PITTSBURGH PLATE GLASS COMPANY and its H. B. Fuller Co. on the Pacific Coast

Cities Bid for Conventions

Nation's visitors' bureaus are busy signing up the big annual meetings of business and other organizations. Promotional machinery keeps working against day when travel ban will end.

Seldom has that darkest-before-dawn adage applied more aptly than to the outlook for conventions. All that the Office of Defense Transportation will say is that the ban will be lifted when transportation conditions warrant, and redeployment traffic plans could, and probably will, prevent any relaxation until next spring. Meanwhile every major U. S. city is busily signing up conventions on a 1946-if-permitted basis, and making definite bookings for 1947.

• **Ready to Go**—Convention bureau officials happily look forward to what one of them called the nation's biggest epidemic of conventions as soon as travel restrictions are removed.

Most organizations haven't met in large-scale conventions even though their bylaws, and in some cases state regulations, require annual meetings. Both businessmen and delegates to social organization conventions have been denied the stimulus of conventions so long that they will certainly jump at the first opportunity. Furthermore, war-to-peace transition problems are bound to make trade association meetings boom; prewar experience shows that a tough industry-wide problem—or a depression—will boost convention attendance 30% to 40%.

• **Major Industry**—Most convention bureaus have kept their promotional machinery in good order during the war; skeleton staffs kept mailing lists up to date, and bureau managers polished their old contacts and hunted up new ones, ready to snag their share of a business that before the war amounted to $1,000,000,000 annually.

Chicago estimates its prewar convention business at $53,000,000 annually; New York claims $21,428,571; Atlantic City, $4,500,000; St. Louis, $3,500,000 to $5,000,000; San Francisco, $2,500,000. Most of this is personal expenditures of delegates, rather than official convention outlay. The average delegate spends about $12 a day in San Francisco and Atlantic City, $14.76 in Cleveland, $20 in New York.

Claiming the highest skyscraper in the country outside New York, Cleveland, thriving lake port, ranks among the "Big Eleven" convention cities.

Strategically situated, St. Louis already claims a full convention house for 1946, urges guests to book now to assure space for 1947-1948.

Breakdown of this convention dollar varies, but an average of 14 cities' estimates (in cents) is fairly typical:

Hotel room and incidentals	27.11
Hotel restaurants	12.75
Other restaurants	10.79
Liquor	6.29
Department and other stores	16.12
Taxis and transportation	3.52
Theater	2.34
Other amusements	8.64
Gas, oil, and car service	1.81
Wholesale and manufacturing	3.98
Other items	6.65

• **20,000 a Year**—Normally about 20,000 conventions are held in the United States each year, according to the International Assn. of Convention Bureaus. Biggest of them all is the American Legion's, for which a dozen cities bid annually. The first legion convention after V-J Day is expected to attract more than 300,000 persons. But before the legion may hold another streamlined wartime convention for which cities like Kansas City, St. Louis, and Ba more can compete.

San Francisco has plans to promote itself as the West Coast convention center and help keep its Exposition Auditorium busy after the war.

Other plums now being hotly contested by the larger convention cities are the huge American Road Builders Ass National Machine Tool Builders Ass Dairies Industries Exposition, Assn. Iron & Steel Engineers, and Americ Foundrymen's Assn.

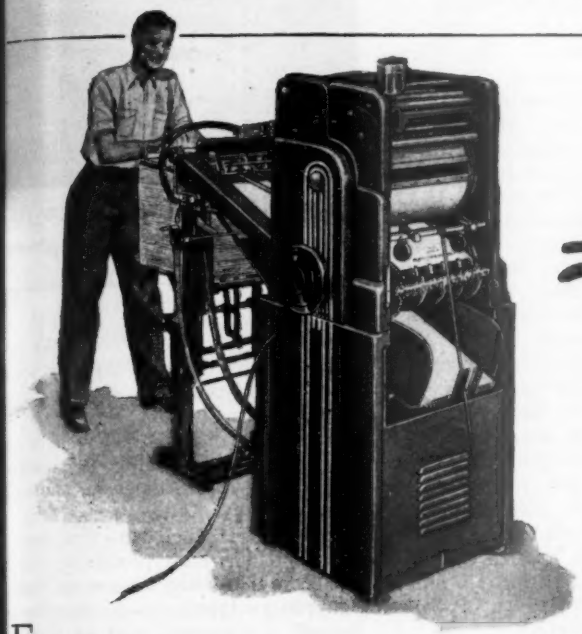
Smaller cities are by no means sh out, however. About 80% of U. S. conventions have fewer than 500 de gates, so that cities with 200,000 more population, with limited feed and housing facilities, can enjoy a pro able chunk of this business. Cinc nati, for example, estimates that th are 3,000 conventions from which may draw.

• **Bureaus Assist**—Cities formerly offe cash inducement for conventions; n they spend the money on convent bureaus which promote the city's lo tion, hotel accommodations, clima and other attractions to the "time a place committees" which select conv tion sites for most associations.

In fact, says I.A.C.B., experienc trade association executives would think of holding a meeting of any s without the local bureau's help arrangements, registration, advance pu licity, etc. There are now 56 w organized bureaus, mostly suppor by hotels, restaurants, suppliers of th establishments, local transportat companies, and retail stores.

Some cities are planning spe events to lure convention delegates, well as other visitors. For one ample, the automobile interests are s to be backing a postwar world's

"It works for every department in the business..."



FROM THE executive offices clear down to the shipping room, there's work for a Davidson Dual Duplicator . . . work that it can do at a worthwhile saving. That's because it's so versatile . . . can do so many different kinds of work. Unlike other duplicators, the Davidson provides five different methods of reproduction . . . all with the same machine. With it you can reproduce from inexpensive paper or metal direct offset plates (prepare them yourself), photographic offset plates, type, electrotypes, or rubber plates. With all five methods available, your operator may select the one most practical and economical for each job.

The Davidson does remarkably fine work . . . gives you clean, sharp impressions in one or more colors . . . excellent halftone reproduction . . . provides thorough ink coverage . . . accurate register, and any one of your employees with average intelligence can be quickly trained to operate it.

In hundreds of businesses and U. S. Government Departments all over the country, the Davidson Dual Duplicator has a proven record of efficiency and economy, paying for itself in an amazingly short time. Why not get the facts . . . today?

DAVIDSON MANUFACTURING CORPORATION
1034-60 West Adams Street, Chicago, Illinois
Offices in principal cities of U. S., Canada, Mexico

PRODUCE IT ON A

Davidson
DUAL DUPLICATOR

All this, and more— with a Davidson

Executive Offices: Confidential reports—financial statements.

General Offices: Stationery—envelopes—form letters—general office forms.

Sales Department: Bulletins—price lists—price change notices—salesmen's reports—instruction manuals.

Advertising department: House organs—advertising folders—booklets—post cards—mailing pieces—in one or more colors.

Bookkeeping department: Various accounting and bookkeeping forms.

Billing department: Invoice forms—statement blanks.

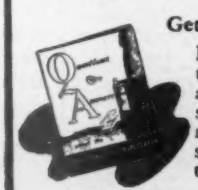
Purchasing department: Order forms—acknowledgements—requisition forms.

Engineering department: Duplicates of mechanical drawings—specification sheets.

Factory: Shop order forms—production and inspection forms—parts envelopes.

Personnel department: Employment application forms—transfer notices.

Shipping department: Shipping order forms—shipping tags—labels.



Get this FREE book—today

It anticipates your questions about the Davidson and answers them fully . . . shows how it can save you money . . . and includes samples of its work. Write today. No obligation.

Industrial Applications practically unlimited!

HEIN-WERNER HYDRAULIC JACKS

are great for

- **Lifting Heavy Loads**
- **Moving Machines**
- **Pressing Bushings, etc.**

Many jobs in a plant, mill or mine can be done quicker and easier by using H-W Hydraulic Jacks . . . Made in models of 3, 5, 8, 12, 20, 30 and 50 tons capacity . . . For details, consult your nearest industrial supply distributor, or write us.

HEIN-WERNER MOTOR PARTS CORP.
Waukesha, Wisconsin

★ This compression spring serves as an extension spring—for jobs with a high safety factor. Interlocking drawbars—passing through the spring and gripping opposite ends—absorb pulling force by compression instead of extension, and prevent separation of suspended parts, should an overload cause spring breakage. MUEHLHAUSEN SPRING CORPORATION *(Division of Standard Steel Spring Company)*, 775 Michigan Ave., Logansport, Indiana.

To improve product performance, use **MUEHLHAUSEN Designed SPRINGS**

for Detroit. For another, the California legislature has authorized Los Angeles County to spend $25,000 on initial planning for a $60,000,000 world's fair, to which the state would contribute $20,000,000. But most towns depend on long-range wooing of organization executives.

• **The Big Eleven**—Leading convention cities, according to I.A.C.B., are New York, Chicago, Atlantic City, Cleveland, Detroit, Cincinnati, St. Louis, New Orleans, San Francisco, Milwaukee, and Kansas City, although not necessarily in that order. Progress reports from leading cities are typical of what's happening in the rest:

Chicago is complacent about its postwar prospects because of its central location, good rail facilities, large hotels and auditoriums. It announces no commitments for 1946, but its convention manager asserts that a recent scouting trip netted him assurances that Chicago would be the next convention city for 43 of the 72 New York associations he contacted, and 38 out of 74 contacted in Washington. Chicago's postwar goal is 1,200 conventions a year, compared with 800 before the war, and its sights are trained on the 150 to 200 biggest. To that end 300 business firms, representing 85 industries, have subscribed to a six-figure convention bureau budget.

New York expects its immediate postwar year to be 50% above normal. Predicated on 1941's 551 conventions with 229,855 attendance, that means an estimated 826 conventions with 342,782 attendance. Emphasis now is on 1947 meetings, but among those tentatively scheduled for 1946 are the American Assn. of School Administrators and the National Assn. of Credit Men, each attracting 1,500 normally, probably more the first postwar year.

Cleveland averaged 167 conventions a year, with 167,856 total attendance, annually, before the war. The nine sizable meetings it has lined up for the postwar year range from the International Assn. of Fire Chiefs to the National Assn. of Building Owners & Managers, to the American Society of Experimental Biology.

San Francisco has 18 conventions solidly booked for 1946 or the first postwar year. Its bright promotional idea is a Postwar Technical Congress—a goal of 28 professional and technical conventions linked by the premise that by meeting at the Golden Gate they can advance the job of developing the Pacific area. Already signed up are the American Society of Mechanical Engineers, American Society of Refrigerating Engineers, American Institute of Mining & Metallurgical Engineers, and other technical societies. Before the war

Miami convention goers find it eas to combine business with pleasur

San Francisco's average was 140 co ventions a year; its bureau looks for postwar boom because the war heade off much of the city's normal conve tion and tourist traffic.

St. Louis claims full bookings for mo of 1946 and is urging organizatio to specify 1947-48 dates lest hotels b sold out.

New Orleans bemoans that the wa interrupted its most promising conve tion year—1942—and cites more than 4 conventions that got away after the ci became a congested port of embarka tion.

Atlantic City has been campaigning with no success, for exempting stat conventions from the ban, despite th fact that its auditorium and some o its largest hotels are still occupied b the U. S. Army. Its convention bureau says it has discouraged 1946 commit ments, but announces that it will ente tain the American Medical Assn.'s 100th anniversary in 1947.

Like its skyline, New York's figure on expected postwar convention busi ness show an upward trend.

45,000 TONS
TO HELP SET THE RISING SUN !

A graceful curve disguises the muscles of our most powerful super battleship—one of four of the *Iowa* class now in action.

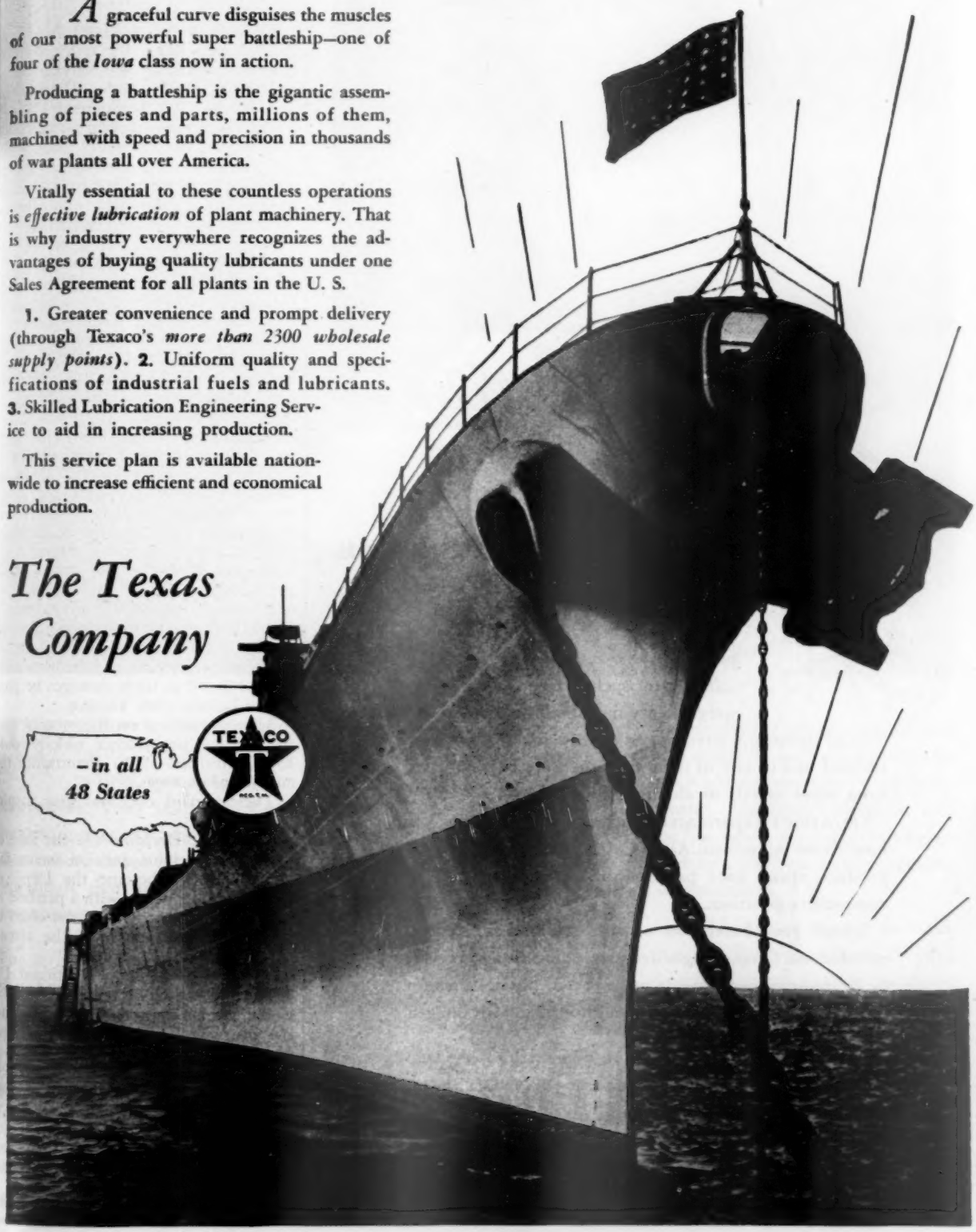
Producing a battleship is the gigantic assembling of pieces and parts, millions of them, machined with speed and precision in thousands of war plants all over America.

Vitally essential to these countless operations is *effective lubrication* of plant machinery. That is why industry everywhere recognizes the advantages of buying quality lubricants under one Sales Agreement for all plants in the U. S.

1. Greater convenience and prompt delivery (through Texaco's *more than 2300 wholesale supply points*). 2. Uniform quality and specifications of industrial fuels and lubricants. 3. Skilled Lubrication Engineering Service to aid in increasing production.

This service plan is available nationwide to increase efficient and economical production.

The Texas Company



RE-DESIGN NOW—

for LIGHT WEIGHT . . .

MACHINABILITY . . .

RESISTANCE TO CORROSION

In the keen postwar competition, no product can afford to carry the competitive disadvantage of extra poundage.

To gain such advantages as light weight, easy machinability, and resistance to corrosion, a recent survey covering 187 products showed that in 109 of them changes were contemplated from other metals to aluminum.

Let Acme's experienced engineering staff show you how Acme Aluminum Alloy Castings can improve your product, speed your production, and strengthen your competitive position.

Submit your blueprints or specifications for recommendations. Often a slight design modification suggested by Acme engineers reveals unsuspected possibilities for a change to aluminum castings, with its many advantages. And there's no obligation.

ACME ALUMINUM ALLOYS INC.

DAYTON 3, OHIO

Patterns · Tools · Aluminum, Brass, Bronze Castings · Engineering

New York: F. G. Diffen Co., 111 Broadway

Chicago: Metal Parts & Equipment Co., 2400 W. Madison St., St. Louis: Metal Parts & Equipment Co., 3615 Olive St.

Movie Reversals

Circuit courts upset the decisions in Philadelphia and Chicago monopoly cases, but the results are at variance.

"Where do we go from here?" is the question facing the movie theater industry, following two varying opinions in monopoly cases. The answer seems to be, "To the Supreme Court."

Decisions in two motion picture suits among many now pending throughout the country were reversed by U. S. Circuit Courts of Appeal last week—one in favor of an independent who charges he was frozen out of first-run motion pictures; the other in favor of the big distributors and chain operators.

• **Philadelphia Case**—In Philadelphia, the circuit court reversed a decision by a federal district judge who threw out the suit of William Goldman (BW—Apr.15'44,p98), who sought triple damages of $1,350,000 from Warner Bros., three affiliates, and eight other major producers and distributors, for their refusal to supply him with first-run pictures for his Erlanger Theater.

The higher court ordered the case back to the district court for the setting of damages, not only for the 1940-42 period on which the suit was brought but also for subsequent damages.

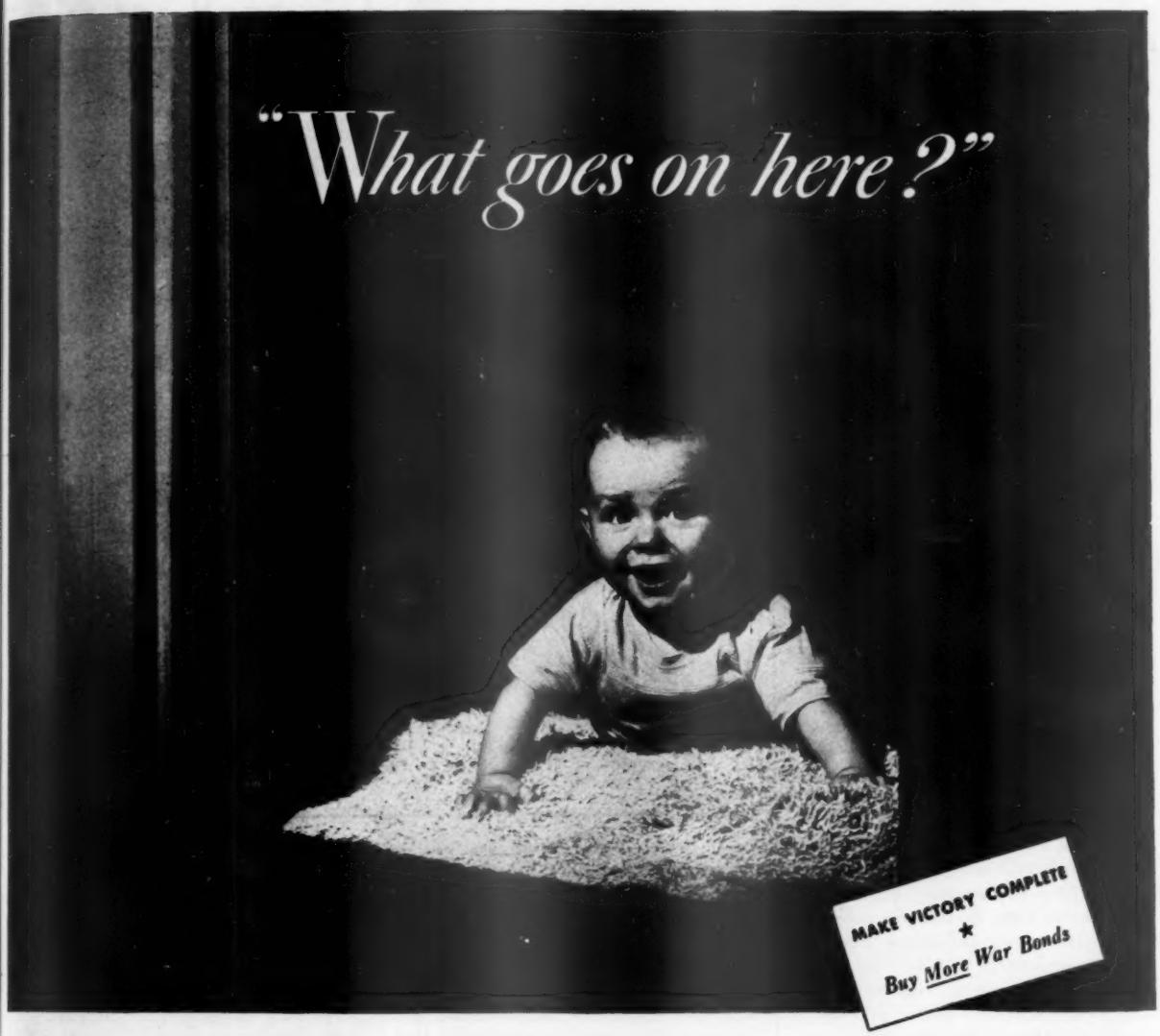
• **Chicago Case**—On the other hand, the Circuit Court of Appeals in Chicago upset a verdict by a jury which had held that nine film companies and distributors maintained a discriminatory film booking system and had directed that $350,000 in triple damages be paid to the Jackson Park Theatre.

The reversal was on the ground that the jury had no evidence which would have permitted it to determine the amount of damages.

These variant decisions may inspire more suits.

• **Behind the Decision**—On the face of it, the Philadelphia decision seems the more important because the Dept. of Justice had stepped in with a petition to submit a brief as friend of the court to back Goldman's appeal to the circuit court last year.

Wendell Berge of the Antitrust Division told the court that the decision would have an important bearing on the still pending case brought by the Dept. of Justice against the film companies in New York. That case had been held in abeyance while the Antitrust Division was trying to negotiate a new version of the famous consent decree under which the movie producers, in 1943, had agreed to abandon block booking and



WELCOME, little bright eyes. Welcome to a world that needs your eagerness, your courage, your beaming friendliness. A world that needs, above all, the venturing spirit that brings you across that threshold.

For it is in the crossing of new thresholds that lie the opportunities of tomorrow.

Opportunities for new jobs. Opportunities for generous rewards for those willing to earn them. Opportunities for even higher standards of living than in the past.

We need only to turn to past experience for examples to justify this idea.

Years ago the Diesel engine gave promise of new, economical motive power. General Motors spent years in research to improve it and today the highly developed GM Diesel not only gives the railroads a compact power unit of greatly increased efficiency, but is doing a great job on all war fronts powering ships, bulldozers, trucks, landing craft and so on. And thousands of men have good-paying jobs because of General Motors work on the Diesel engine.

In the days of peace to come, you can count on such examples to be multiplied many times over in industry. American enterprise will be free again to unleash its energy and resources on new peacetime achievements.

General Motors expects to make its contribution to those fruitful years, in even greater measure, with "more and better things for more people."

GENERAL MOTORS

"VICTORY IS OUR BUSINESS"

CHEVROLET · PONTIAC · OLDSMOBILE · BUICK
CADILLAC · BODY BY FISHER · FRIGIDAIRE
GMC TRUCK AND COACH · GM DIESEL

Every Sunday Afternoon
GENERAL MOTORS SYMPHONY OF THE AIR
NBC Network

Menus

for example

Hamilton Text and Cover Papers—Andorra, Victorian, Kilmory, and Weycroft—will provide post-war advertisers with distinctive printing surfaces at moderate costs. Their versatility will be limited only by the creative ingenuity of those who must sell by the printed medium. Menus, for example . . . announcements, books, booklets, brochures, programs, folders . . . here will be "good papers for good business."

Now, of course, with paper on the critical lists, the mills at Miquon and the nation-wide network of Hamilton merchants behind them, are hard pressed—and pressing hard—to meet essential needs.

W. C. Hamilton & Sons, Miquon, Pa. Offices in New York, Chicago, San Francisco.

HAMILTON PAPERS

GOOD PAPERS FOR GOOD BUSINESS — W. C. HAMILTON & SONS MIQUON PA.

American Jewels Corp.
Attleboro, Mass.

Bendix Aviation Corp.
Troy, N. Y.

Charles F. Clark, Inc.
Chicago, Ill.

The Cornelius Co.
Minneapolis, Minn.

James M. Dunn Roofing Co.
Tiffin, Ohio

The Enamel Products Co.
Cleveland, Ohio

Everlastik, Inc.
Chelsea, Mass.

John E. Fast & Co.
Chicago, Ill.

The Fox Chemical Co.
Coshocton, Ohio

Fuller Johnston Corp., Caille Motor Co., Detroit, Mich

Lennan Lights, Inc.
Los Angeles, Calif.

Milwaukee Gear Co.
Milwaukee, Wis.

National Automotive Fibres, Inc., Little Falls, N. Y.

North American Phillips Co., Inc., Dobbs Ferry, N. Y., and Mt. Vernon, N. Y.

Republic Steel Corp.
Niles, Ohio

Rupert Diecasting Co.
Kansas City, Mo.

Swan Engineering & Machine Co., Davenport, Iowa

Vulcan Steel Products Co.
Brooklyn, N. Y.

J. K. Welding Co., Inc.
Brooklyn, N. Y.

Wico Electric Co.
West Springfield, Mass.

J. R. Wood Products Corp.
New York, N. Y.

(Names of winners of the Army-Navy and Maritime Commission awards for excellence in production announced prior to this new list will be found in previous issues of Business Week.)

curtail acquisition of theater outlets (BW—Jan.8'44,p74). The new version has not yet been drawn.

• **"Concert of Action"**—In the original decision in the Goldman case, Judge William H. Kirkpatrick had ruled that if there was a monopoly, it was local, with no violation of the Sherman act. However, the circuit court found that "an illegal intent to restrain" existed and that there was a "concert of action."

The film producers have 30 days in which to file a petition for permission to carry the case to the Supreme Court. Meanwhile, no action will be taken by the district court in setting hearings to determine Goldman's losses.

The defendants in the Goldman case were: Warner Bros. Pictures, Inc., and its affiliates, Vitagraph, Inc., Stanley Co. of America, and Warner Bros. Circuit Management Corp.; Loew's Inc.; Paramount Pictures, Inc.; RKO Radio Pictures, Inc.; 20th Century-Fox Film Corp.; Universal Corp.; Universal Film Exchange; and United Artists Corp.

• **Chicago Defendants**—In Chicago, the defendants are Paramount, Warner Bros., Warner Bros. Circuit Management, Vitagraph, RKO Radio, 20th Century-Fox, Loew's, and the Balaban & Katz Corp.

Several similar cases have been settled out of court while others are pending.

MORE MEAT PER ACRE

Grazing cattle the year around on green grass adds substantially to beef production, and yields more milk of higher vitamin content, experiments at Louisana State University have proved.

Native, unimproved Louisiana pastures usually produce 10 lb. to 60 lb. of beef per acre annually. Production on improved pastures at the university's experimental station ran from 240 lb. to 300 lb. yearly. The secret, according to university agronomists, is providing a vitamin-rich winter diet of hardy oat and rye grasses.

An increase of 2.26 lb. to 4.8 lb. of milk a day was taken from cattle fed on the improved pastures. One group of dairy cows, formerly fed Bermuda hay in winter, upped milk yield by an average of 4.5 lb. within one week after being switched to a diet of green oat grass, and their milk was 50% to 100% richer in vitamin A.

Average cost of improving this pasture land was found to be $7 an acre. Multiplied by Louisiana's 1,500,000 cattle grazing acres, this means an investment of $10,500,000 to improve the state's pastures. The agronomists figure that the return would be in excess of $45,000,000 yearly for Louisiana cattlemen.

Tasks for Bees

Georgia begins research into pollinization of two forage crops through increased use of honey bee colonies on farms.

Bee culture, already a big U. S. industry, may be considerably expanded if research projects now under way show that wider use of bees in pollinization of crops would be of economic benefit to agriculture. Already extensively used by orchardists, honey bees may, for example, some day be used to increase seed yields of white and crimson clover.

• **Research in Georgia**—The state of Georgia, which, as No. 1 U. S. shipper of package bees, has a large stake in the experiments, hopes that its newly established department of bee culture at the Coastal Plain Experiment Station at Tifton will be able to show how beekeeping can profitably be integrated with other agricultural pursuits.

Research into the dependency of clover on bees for pollinization is but one example of a simple principle which might be expanded to countless practical farm applications. However, because of scarcity of apiary and scientific equipment, and because such research is necessarily slow, definite findings are not expected for some time.

• **Important to South**—Beyond the benefits which may accrue to agriculture,

A royal package, a shipment of queens, represents the cream of the bee business in Georgia—which holds the No. 1 spot in the bee package trade.

Instant Finding!

U-MAK-A INDEX TABS

PUT FACTS AT YOUR FINGER TIPS

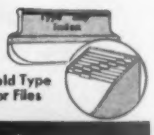
Easy to see—to grip—to use—modern *self-measuring* U-MAK-A Index Tabs flag every key reference . . . give you finger-tip control. Index your records, reports, books, catalogs, cards, folders, portfolios, etc. *for instant finding!*

Strip Type

Index Type

EASY TO MAKE AS A SNIP OF THE SCISSORS!

Strip Type (for your own inserted labels)—7 colors. Index Type (alphabetical)—green celluloid. Shield Type (for your own inserted labels)—5 colors, 4 lengths. Visit or telephone your Globe-Wernicke dealer or write to The Globe-Wernicke Co., Norwood, Cincinnati 12, Ohio.



Shield Type for Files

Just the Thing for School Books, Too!

Help your boys and girls in school to speedier studying . . . precise, orderly habits and thinking . . . with U-Mak-A Index Tabs.

Globe-Wernicke

U-MAK-A INDEX TABS

Filing Equipment & Systems
Visible Record Systems
Office Furniture
Bookcases
Stationers' Supplies

THERE'S NO PLACE LIKE HOME

What's Mrs. Mead sitting in? An overstuffed chair, vintage of 1928?

No. If you could read the gleam in her eye, you'd know she was sitting in the modern sectional sofa upholstered in moss green she saw in Better Homes & Gardens.

The sofa — with the new refrigerator and the new corner porch from Better Homes & Gardens — have had to wait because of the war. But nothing has waited to wear out, so that after the war a lot of the Meads' spending will be for their home.

Better Homes & Gardens is written entirely for the Meads — the millions of families whose big interest is their homes. That's why *there's no place like it to sell everything that goes into homes.*

results of the experiments mean much to the South, which ships approximately 80% of all package bees sold in the U. S. Georgia, which shipped a total of 239,000 lb. of package bees in 1944 and retained its No. 1 position in that field, supplies beekeepers in virtually every state east of the Mississippi and as far north as Canada.

One reason for Georgia's heavy shipments northward each year is that northern bee men buy a lot of Georgia bees mainly because they can build up their colonies earlier in the spring than if they wait for their own colonies to multiply. Another is that some beekeepers in the colder climates kill their colonies by gassing them in the winter, strip the hives of honey, and start over again each spring.

• **How States Rank**—Strangely enough, the main threat to Georgia's No. 1 position does not come from another southern state, but rather from California, which last year shipped 224,000 lb. of package bees.

The 1944 totals for other states, according to the U. S. Bureau of Agricultural Economics, were: Alabama, 198,000 lb.; Louisiana, 178,000 lb.; Mississippi, 96,000 lb.; Texas, 93,000 lb. Other states shipped a total of 100,000 lb. bringing the over-all total to 1,128,000 lb.

• **5,000 to the Pound**—Package bees without a queen are usually forwarded in shipments ranging from 2 lb. to 5 lb. each and run around 5,000 bees to the pound. They sell for about $1.50 a lb., compared with a prewar price of $1. The bees feed themselves in transit from a can containing sugar and water which drips slowly through a small hole.

A package containing a queen bee and eight or ten workers (or attendants) sells for around $1.10 compared with 70¢ a few years ago. In these packages (measuring only 3½ in. by 1¼ by ¼ in.) the bees feed on sugar and water boiled down to a gummy substance resembling soft candy. This holds its shape until eaten through, the break through usually not occurring until a day or two after the package reaches its destination.

Another popular phase of the bee business is for some northern bee men to send their colonies south in cold weather to build up the bees and the honeyflow. Georgia receives 15,000 to 20,000 such colonies annually, in addition to some 10,000 colonies from Florida. Georgia, in turn, sends some of its own colonies to Florida at certain seasons.

• **California, Honey Leader**—While more than one-third of Georgia's $1,500,000 income from 200,000 colonies last year came from the sale of package bees and queens, the state ranked only eleventh and thirteenth, respectively, in production of honey and beeswax.

California led all states in both departments with 16,450,000 lb. of honey of the nation's total of 188,969,000 lb. and 378,000 lb. of the country's total of 3,921,000 of beeswax. However, Georgia has made big strides in both these fields in the past few years, having jumped its honey production from 2,768,000 lb. in 1943 to 5,970,000 lb. last year, while increasing its beeswax output from 69,000 lb. to 113,000 lb. in the same years.

Beeswax, due to its many applications by war industries, is now a critical material. It is extensively used in polishes, leather dressings, dental impressions, pharmaceuticals, cosmetics, pattern molding and casting of metals, modeling, lubricants, shell greases, airplane coatings, and some still secret military purposes.

Those who believe that wartime shortages of sugar have greatly increased consumption of honey will be surprised by the statistics. In 1944, total production was 188,969,000 lb. compared with 205,767,000 lb. in 1940.

CITRUS CROP INSURANCE

By November, under arrangements worked out with the Federal Crop Insurance Corp., citrus growers should be able to take out crop insurance in test areas of one county in Arizona, three in California, three in Florida, and two in Texas (BW—May19'45,p51).

In Maricopa County, Ariz., first area designated, grapefruit and possibly oranges can be insured. Data on yields for six years past will determine rates, not yet set. The grower who applies for protection on his 1946 crop can get 75% coverage. But if he takes 50% coverage, his premium payment will only be one-fourth as much.

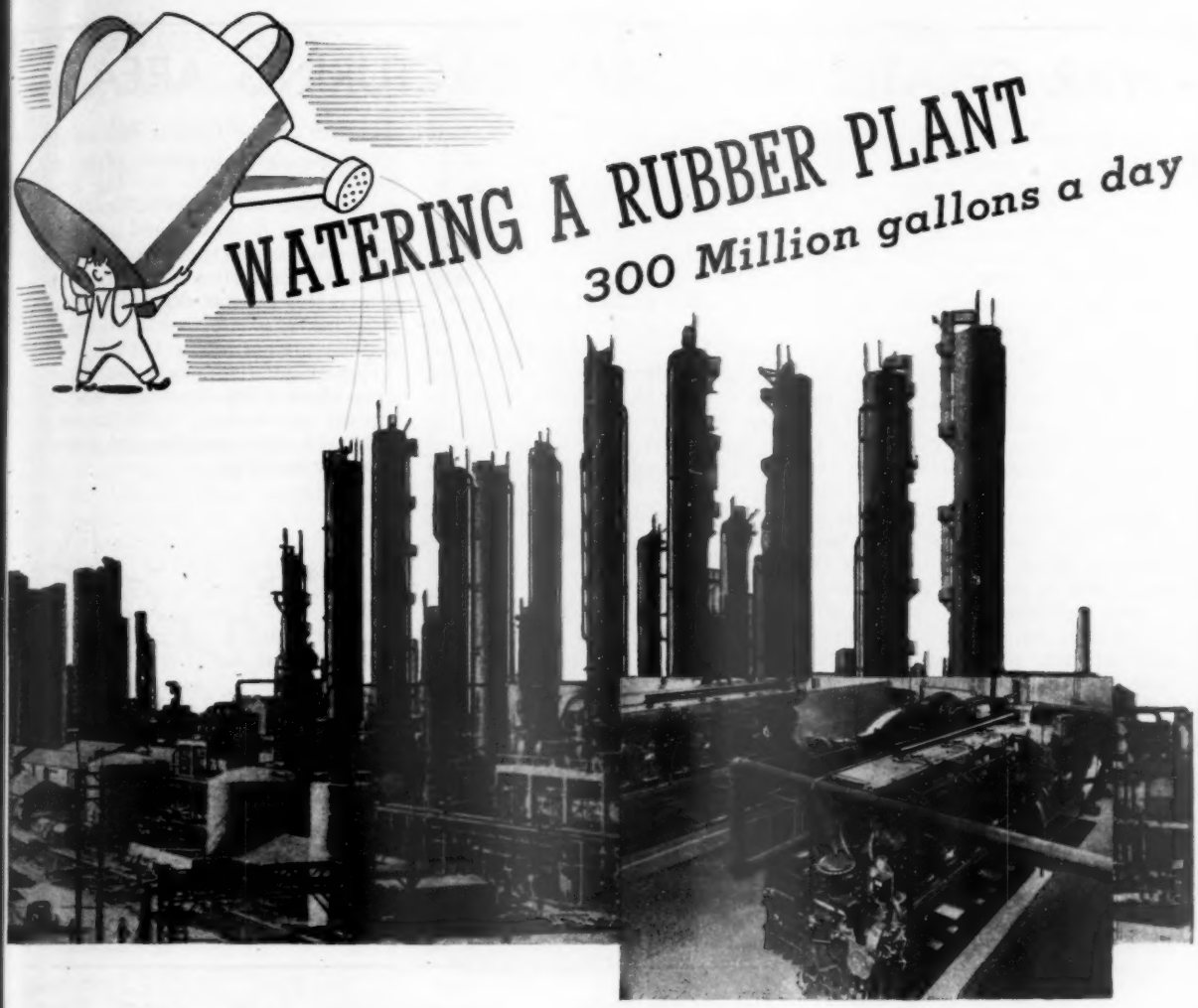
Committees of local growers will pass on applications.

FOR DISABLED VETERANS

Ford Motor Co. will equip its automobiles, without extra charge, for driving by war veterans who suffered war wounds requiring amputation.

Ford recently developed special controls for armless or legless veterans as part of the auto industry's program to make driving possible for amputees (BW—Jun.23'45,p26).

None of the other companies participating in the program has as yet indicated that it will follow Ford's lead and distribute the special equipment kits without charge. But they all have indicated that they intend to sell the special fittings at no more than actual cost.



WATERING A RUBBER PLANT

300 Million gallons a day

IT takes a lot of water to "grow" 120,000 tons of rubber. That's the annual "crop" of the world's largest butadiene rubber plant at Port Neches, Texas, where processing and cooling for capacity output require some 240,000 gallons of water every minute of every day—more than enough water for an entire city the size of Cleveland or Detroit.

Water from the Neches River a mile away is pumped to the giant synthetic rubber plant by two big automatically controlled engines driving huge centrifugal water pumps. These two engines, shown above, are alone responsible for satisfying the plant's tremendous thirst and must be operated continuously, day and night. It is said to be one of the largest water pumping installations ever made for a single manufacturing or processing plant.

Both engines are modern, V-type Cooper-Bessemers, selected for their long-range efficiency and reliability . . . and reliable they *must* be or else that war-crucial rubber crop would quickly wither and die.

So when it comes to prime movers, here is still further evidence of Cooper-Bessemer's unqualified ability to help America's vast new industries to better serve America—an ability dating back 112 years, through times of war and times of peace . . . on land, at sea, and on the rails.

THE **Cooper-Bessemer** CORPORATION

Mt. Vernon, Ohio • Grove City, Pa.

BUILDERS OF DEPENDABLE ENGINES FOR 112 YEARS

WAR CREATES NEW MANUFACTURING AREAS

In 20 areas scattered through the country, the expansion of manufacturing plant and facilities due to the war has been so great that the majority of them could well be designated as "new manufacturing areas."

• **Since July, 1940**—This classification forms one section of a recent report from the War Production Board on the over-all geographical distribution of manufacturing facilities expansion from July, 1940, to May, 1944, inclusive.

The criterion on which the list of 20 areas is based is the ratio of the dollar value of war expansion to the number of wage earners in the area in 1939. The areas listed below are those for which this ratio amounted to $25,000 or more per wage earner.

Two significant facts brought out in the table are (1) the large proportion of new plants—as contrasted with expansion or conversion of existing plant—and (2) the predominant use of public funds.

New plants accounted for 91.9% of the total in these 20 areas against only 68.4% for all war expansion throughout the country in the same period. Public funds were used for 89.3% of the total, compared with 77.7% for the country as a whole.

• **Future Roles Uncertain**—In the light of current cutbacks in war production, and the prospect of total cancellations after V-J Day, uncertainty increases over the extent to which areas will retain their new manufacturing potential. Examination of the list of products made indicates that these prospects range from highly doubtful to very good.

The tire cord plant at Front Royal, Va., is almost certain to be continued, either for tires or for other rayon uses. The Geneva Steel Co. plant at Geneva, Utah, seems likely to continue in operation in view of the current negotiations for its future (BW—Jul.21'45,p15). Reynolds Metals Co. has announced plans to continue in operation its big aluminum plant at Listerhill, Ala.

Explosives facilities could produce either commercial explosives or nitrogenous fertilizer after the war. The same is true to some degree of those shell-loading plants that have affiliated ammonium nitrate facilities.

Biggest question marks are those areas whose main expansion lies in airplane manufacture, synthetic rubber, and aviation gasoline and petroleum fractionation.

Area	Expansion Factor*	Principal War Products	Total Expansion†	New Plant Amount†	New Plant Percent	Use of Public Funds Amount†	Use of Public Funds Percent
1. Choteau, Okla.	4,219	Explosives	$67,510	$67,510	100.0	$67,510	100.0
2. Las Vegas, Nev.	859	Magnesium	127,023	126,974	99.9	126,259	99.4
3. Lawrence, Kan.	307	Explosives	148,364	148,364	100.0	148,364	100.0
4. Herrin, Ill.	220	Bomb and shell loading, ammonium nitrate	42,540	42,540	100.0	42,540	100.0
5. Listerhill, Ala.	142	Aluminum, industrial and agricultural chemicals	68,764	51,981	75.6	52,852	76.9
6. Front Royal, Va.	93	Rayon yarn for tires	39,171	2,619	6.7	7,741	19.8
7. Cheyenne, Wyo.	68	Aviation gasoline, aircraft modification	12,763	12,708	99.6	12,708	99.6
8. Grand Island, Neb.	54	Bomb and shell loading, ammonium nitrate	20,500	20,500	100.0	20,500	100.0
9. Amarillo, Tex.	49	Aviation gasoline, synthetic rubber, carbon black, zinc, bomb loading	116,770	113,091	96.8	95,461	81.8
10. Corpus Christi, Tex.	42	Aviation gasoline, industrial chemicals, zinc	42,608	34,996	82.1	21,999	51.6
11. Salt Lake Basin, Utah.	41	Steel, ammunition, aviation gasoline	246,549	232,129	94.2	244,138	99.0
12. Minden, La.	38	Bomb and shell loading, aviation gasoline	38,809	38,809	100.0	35,477	91.4
13. Milan, Tenn.	37	Shell loading	37,790	37,790	100.0	37,753	99.9
14. Beckett, Okla.	37	Aviation gasoline	14,510	14,212	97.9	14,212	97.9
15. Louisiana, Mo.	33	Anhydrous ammonia	20,150	20,150	100.0	20,150	100.0
16. Marietta, Ga.	32	Superfortresses	65,322	65,322	100.0	65,158	99.7
17. Baton Rouge, La.	31	Aviation gasoline, synthetic rubber, industrial chemicals	126,559	104,066	82.2	78,474	62.0
18. Parco, Wyo.	27	Aviation gasoline	9,166	32	0.3	6,750	73.6
19. Texarkana, Tex.	25	Bomb and shell loading, pig iron	75,972	75,972	100.0	75,972	100.0
20. Burlington, Iowa	25	Bomb and shell loading, land mines	50,613	50,259	99.3	50,259	99.3

* *Ratio of war expansion to number of wage earners in the area in 1939; expressed as thousands of dollars per wage earner.*
† *Money figures in thousands of dollars—000 omitted.*

Hatcheries Busy

Baby chick production may exceed 1943 peak, or more than double prewar average. Backyard demand picks up.

Production of baby chicks, which slumped in 1944 after reaching an all-time record of 1,600,000 in 1943, is on the uptrend again. The International Baby Chick Assn., Kansas City, figures that the 1945 hatch will easily exceed 1943's peak. Prewar average was 800,000,000.

• **More Backyard Raisers**—Despite difficulties in getting eggs and feed, hatcheries have boosted their output substantially to meet the current brisk demand accentuated by the black market in poultry (BW—Jul.7'45,p40) and by the increasing popularity of wartime backyard chicken raising.

A year ago hatchery operators, in the belief that the war would soon be over and that the tremendous market for poultry would drop, were cutting back plans for 1945. But as the demand swelled production schedules were upped again. Planning for 1946 is being held back until hatcheries and feeders get a better idea of how the corn crop is going to turn out.

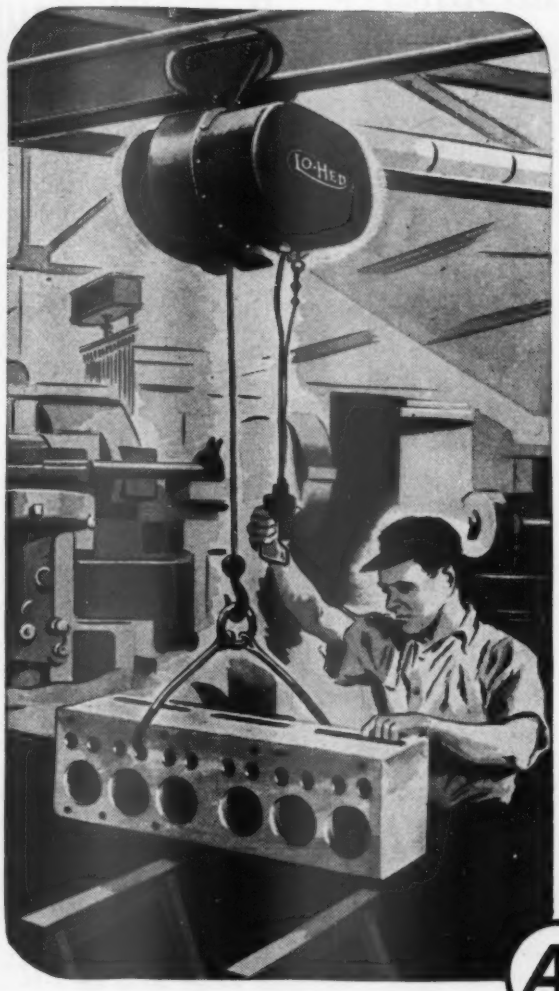
• **Hazardous Shipping**—There is no price ceiling and hence no black market in baby chicks; they sell from 13½¢ to 14¢ in the Middle West and up to 20¢ in the East. Present transportation difficulties impede distribution. They must be shipped in a delivery range of 72 hours according to parcel post regulations. Hot weather makes shipments hazardous.

Backlot chicken raisers are seeking the heavier types of fowls such as Wyandottes, Rhode Island Reds, Plymouth Rocks, and Orpingtons. Even in cities health authorities are overlooking chicken yards because of the food shortage.

Big worry of the hatcheries now is the egg supply. In March, 1944, when there was an egg glut and the government did not support the market, farmers became disgusted and cut down flocks. They have been slow to get back into production despite high prices.

• **Premium for Eggs**—In the Middle West, hatcheries are paying about 65¢ for their eggs, a premium of 10¢, while in the East, hatcheries are paying up to a 40¢ premium.

The baby chick organization wants the government to fix a minimum price on eggs and lift the ceiling. Officials of the association believe that increased production would hold prices down.



Æ

LO-HED ¼ TON ELECTRIC HOIST
lifts more pounds per day!

HERE'S A ¼-ton electric hoist that lifts its full rated capacity day after day, month after month in heavy duty, mass production use. Built to big hoist standards, it maintains its lifting ability when the going is tough, handling more pounds per day than ordinary hoists of its capacity.

Every inch a quality hoist, Lo-Hed's heavy duty construction means smoother, steadier performance. Its heavy duty, high starting torque motor speeds up quickly and carries repeated peak loads safely. Sturdy spur type gearings with ball bearings. Automatic lowering and electric motor brakes. Heavy duty push button station. Steel pull cable. Shock-proof trolley. Streamlined, dust-proof design. Pressed steel chassis.

You can expect from these and many more features the same long life and low cost operation found in the larger, famous Lo-Heds. See how easily production is kept on the line with a ¼-ton Lo-Hed "on the beam"! Write for descriptive folder today.

Weight: 195 lbs., bolt suspension type; 225 lbs., plain trolley type.

The ¼-ton Lo-Hed is offered with or without a trolley.

There's a Balanced LO-HED ELECTRIC HOIST up to 12 tons capacity for every purpose, adaptable for operation on any monorail system.

AMERICAN ENGINEERING COMPANY
Subsidiaries: COCHRANE CORPORATION, FARADAY ELECTRIC CORPORATION
2520 ARAMINGO AVENUE, PHILADELPHIA 25, PA.

Other Æ Products: Æ-Taylor and Perfect Spread Stokers, Marine Deck Auxiliaries, Hele-Shaw Fluid Power, Diamond Face Grinders

See Your Classified Phone Directory Under "Æ LO-HED HOISTS" For Your Nearest Representative

Copyright, 1945, American Engineering Co.

PLAIN TALK ABOUT PLASTICS

Ever Consider

Plastics' Pleasant Touch?

Just for a moment forget plastics' exciting colors, durability and economy . . . think of their friendly, clean, jade-smooth feel. Here is a factor with an unmistakable, subtle appeal to us all . . . a factor you can hardly define, that you can't measure, *except in sales.* Plastics products are, indeed, the kind you love to touch . . . and buy!

Manufacturers of lipstick holders, motor cars or Pullman cars, makers of intimate accessories, writing instruments, costume jewelry, building hardware, bags and luggage, dishes and tableware . . . when you're planning your postwar products don't overlook *the touch of plastics.*

And to combine that pleasant touch with practical factors of durability, appearance and economical production consult Monsanto Plastics Division whose broad experience with many different plastics assures you of expert unbiased advice. Write for specific information regarding your plans . . . simply address: MONSANTO CHEMICAL COMPANY, Plastics Division, Springfield 2, Massachusetts.

The broad and versatile Family of Monsanto Plastics includes: Lustron* polystyrenes • Cerex* heat resistant thermoplastics • Vinyl acetals • Nitron* cellulose nitrates • Fibestos* cellulose acetates • Resinox* phenolics • Thalid* for impression molding • Resimene* melamines • Forms in which they are supplied include: Sheets • Rods • Tubes • Molding Compounds • Industrial Resins • Coating Compounds • Vuepak* rigid, transparent packaging materials.
*Reg. U. S. Pat. Off.

MONSANTO PLASTICS

SERVING INDUSTRY...WHICH SERVES MANKIND

For River Cleanup

Ohio Valley sanitation pact given renewed impetus. Several signatory states prepare plans for sewage disposal projects.

Renewed attention is being focused on the Ohio River Valley Water Sanitation Compact, authorized by Congress in 1936 to enable Ohio River Valley states to get together on a program to control and abate river pollution.

• **Industries Affected**—Dormant during the war, the pact is being dusted off by public officials in some of the seven states in the Ohio's watershed for possible use in building sewage disposal projects as a part of a river purification program which will affect scores of cities and industries in the valley.

Extent of the pollution is illustrated by figures compiled by U. S. Public Health Service engineers. A city the size of Cincinnati and similarly lacking disposal facilities, they say, will dump 100,000,000 gal. of untreated sewage into the river every 24 hours. Other major sources of pollution were said to have been traced to the meat, milk, distillery, canning, textile, tannery, paper, oil, steel, mining, and chemical industries in the seven states.

• **On County Basis**—Commissioners of Allegheny County, Pa. (Pittsburgh), have asked all municipalities in the county to set up an authority to plan and build sewage works on a county, rather than on a local, basis, to end the Pittsburgh area's contribution to the wastes now bringing serious odor and taste problems to cities whose water supply is the Ohio River.

In addition, most of the compact states have been asking Cincinnati why it doesn't set an example for other big cities in the valley. Now, the Hamilton County (Cincinnati) area has plans for $19,000,000 worth of postwar sewage disposal projects.

• **Another Approach**—Another step in the same general direction is a bill pending in Congress (the Barkley-Spence bill) which provides for assistance to political subdivisions and private industries in carrying out projects to abate and control stream pollution.

Under both the compact legislation and the Barkley-Spence bill, the compact commission organizations, the U. S. Public Health Service, and the individual states would be authorized to advise and consult on methods.

• **Ratified, With Strings**—Ratification of the compact last April by the Pennsylvania legislature completed legal action by the seven states originally defined by Congress as situated in the Ohio's drainage basin.

But the compact is not yet in full operation, because only four of the states—Indiana, New York, Illinois and Kentucky—have ratified it without any strings. West Virginia, Ohio, and Pennsylvania accepted it with reservations. Ohio and Pennsylvania require the unconditional sanction of each other, plus New York (which has already acted) and West Virginia. The latter state, however, insists that Virginia, not listed among the original signatory states, also adopt the compact, and on this factor hinges further action.

• **Aid to States**—Most of the compact states are supporting the Barkley-Spence bill. It would appropriate $50,000,000 of federal funds a year to be matched by the states. The compact states and other antipollution forces throughout the U. S. are supporting an amendment that would cut federal participation down to 33% and would increase the appropriation to $100,000,000 a year.

Their reasoning: The states are relatively well fixed now and can afford to accept a larger part of the burden. By boosting the federal appropriation and increasing the states' share, the total spent yearly would rise to $300,000,000.

Since the total antipollution job in the U. S. is estimated at $3,000,000,000, this would enable the nation to clean up its polluted streams in about ten years. Under the present bill, it would take 30 years.

• **Job for U. S.?**—About the only loud and long opposition to the Barkley

Mud Pills Sowed by Plane

Birds, animals, and wind, causes of a major headache for farmers at planting time, are baffled by seed pellets, invention of Dr. Lytle S. Adams, San Diego, Calif.

Pea-size mud pills, containing grass seed and fertilizer, are formed by machine, dried hard, and sown by plane, using another Adams invention to spread the desired density. The pellets penetrate the ground after a rain and thus escape the depredations of wild fowl and weather.

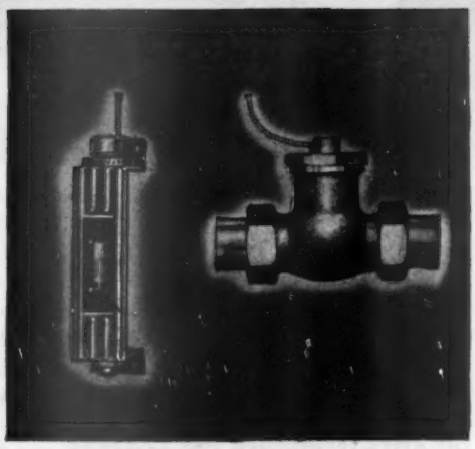
Tests now being carried out in Arizona point to the economical reseeding of vast grass ranges in the Southwest. In Congress, Arizona's John R. Murdock has introduced a bill authorizing $2,500,000 worth of pellet seeding of federally owned range land.

Controlled Summer Comfort for the cold winter coming!

"A guy can't work if his hands are cold . . . and he doesn't feel right."

The best answer to this production axiom, a common everyday problem in many plants and establishments, is controlled temperatures. No. 7 Series of Fulton Sylphon Regulators control steam supply to unit heaters, wall or ceiling type radiators, duct heaters and other types.

Installation is simple. Controls, themselves, are self-powered. Therefore, they do not depend upon auxiliary power, which may, through failure, cause losses in time and materials. For complete information, write for Bulletin PW-820 today . . . The Fulton Sylphon Co., Knoxville 4, Tennessee. Canadian Representatives, Darling Brothers, Montreal.



No. 7 Temperature Regulator

Sturdy, dependable, easily operated, highly efficient modulating type of control. Designed and built for long use. Backed by more than 40 years of experience in the production of precision instruments.

FIRST WITH BELLOWS

FULTON SYLPHON

With a half-century of dependability to live up to, the new Kelly tire—proven by service on every war front—is making good, even on the hardest trucking runs. That's because we're building into it every new war-born improvement in processes and methods to get the most out of today's materials. If you're able now to get some new Kellys again, you'll learn for yourself how the last word in modern materials, machines and methods make Kellys the BUY word for VALUE!

THE KELLY-SPRINGFIELD TIRE COMPANY
Cumberland, Maryland

KELLY

TRUCK TIRES

Proved and Improved for Over Half a Century

Spence bill comes from the Izaak Walton League. The league feels that the responsibility for pollution control can't be left up to the states; that it must be done by the federal government.

Barkley-Spence bill supporters reply: Some antipollution work must be done on streams which lie wholly within one state. The federal government never has taken control of such waters and states' rights legislators are likely to stomp with both feet on such a proposal.

Greyhound's Rival

All-American Bus Lines asks ICC to approve deal for control of Burlington facilities in coast-to-coast program.

All-American Bus Lines, Inc., last week took the step the bus industry had for months been expecting it to take. The line asked Interstate Commerce Commission to approve its privately financed purchase for $1,500,000 of 51% of the Burlington Transportation Co.'s stock (BW—Aug.19'44,p17).

• **Rival for Greyhound**—ICC approval of the deal will make All-American the first serious competitor for coast-to-coast through traffic which Greyhound has dominated.

Before it started on its career of mergers in 1944, All-American was just another small bus system. It had 75 buses specializing in low-fare cross-country service. Last summer, ICC approved All-American's purchase of Northern Trails, which operates from Chicago to New York, thence to Emmitsburg, Md. With Burlington added to its jewels, All-American's next move probably will be to ask ICC approval for purchase of Eastern Trailways, upon which Northern Trails has long held an option.

Last winter Chicago investment bankers bought nearly 100% of the stock of All-American for around $2,000,000. The company is now owned by a small group of stockholders. I. B. James, former president of Burlington Transportation Co., is president and chairman of All-American.

• **More Deals Simmering**—When, as expected, ICC approves the Burlington purchase, All-American will have a good start on its program to have 400 modern buses serving 11,000 mi. of routes by early 1946.

Persistent rumor: that the Santa Fe and Missouri Pacific railroads' bus lines, with top-quality equipment like Burlington's, will be the next pearls added to All-American's necklace.

Crosstie Crop

Northern Pacific joins the "tree farm" movement to insure long-time timber supply through scientific forestry methods.

The Northern Pacific R. R. needs more than 1,250,000 ties each year for the upkeep of its tracks. To insure an unfailing supply of timber for that purpose, the road has become a scientific tree farmer.

Two Northern Pacific tree farms totaling better than 100,000 acres have already been established in western Montana, and a third is projected for the near future.

• **A National Movement**—Tree farming implies the application to forest lands of the same principles that a good farmer applies to his fields of cotton or corn. Though the practices involved have long had recognition from far-sighted timber men, the term "tree farm" has been popularized in a movement backed by American Forest Product Industries, Inc.

In five years, the movement has spread from Oregon to nine other states, has resulted in more than 800 tree farms which cover more than 10,000,000 acres.

• **Long-Range Project**—In the case of the Northern Pacific, use of the road's own timber is not new. (As of Dec. 31, 1944, N. P. held 3,851,358.18 acres of undisposed-of land grants.) What is new is the company's announcement, through its land commissioner, of plans for management of forest lands "as a long-time source of railroad tie supply." This year, the tie makers will be instructed to cut only marked trees.

Trees most used for ties on the Northern Pacific are Douglas fir, larch, and ponderosa pine. Eastern hardwood ties are also used, however, particularly on curves, where stress is greatest. The road maintains a seasoning yard at Paradise, Mont., where ties are air-dried and treated with preservatives.

• **Wood for the Rails**—Last year, according to the Assn. of American Railroads, the nation's rail carriers spent $158,957,000 for forest products. Of this, $85,202,000 was for crossties; $13,174,000 for switch and bridge ties.

The Lake States Forest Experiment Station at St. Paul recently reported that 700 mills in Wisconsin, Minnesota, and Michigan produced 4,000,000 railroad ties in 1944. Wisconsin accounted for 46% of that total. Woods chiefly used were oak, maple, and birch. However, such other hardwoods as ash, aspen, and elm, and such soft-

FOOD MUST BE MADE CLEAN— the public demands it . . . and food manufacturers and processors know what a "good reputation" for cleanliness can mean to sales. In the production of cheeses, beer, and all other food products highly sensitive to contamination, super clean air is a must to prevent spoilage by bacteria and mold spores. So, throughout the food industry, AAF equipment is protecting manufacturers against loss. Our new line of Electronic air filters is designed to meet the need for clean air in *every* industry. Send for the interesting booklet shown below. American Air Filter Co., Inc., 387 Central Avenue, Louisville 8, Kentucky. In Canada: Darling Bros., Ltd., Montreal, P. Q.

AAF Electronic
AIR FILTRATION

Of particular interest for
FOOD PRODUCTS • DEPARTMENT STORES • PHARMACEUTICALS
FACTORY AIR CONDITIONING • BACTERIA CONTROL • TEXTILES
TELEPHONE EXCHANGES • ART GALLERIES • FILM PROCESSING
HOSPITALS • OFFICE AND PUBLIC BUILDINGS • LIBRARIES

Dairies Everywhere Like FRICK Refrigeration

Sheffield Farms, New York

Chestnut Farms, Washington

Superior Dairies, St. Augustine

Central Ice Cream, Chicago

Carnation Milk, Tulsa

Lone Star, Houston

Adohr, Los Angeles

Because it sets the standards of dependability, convenience, and overall economy. Whether for cooling milk, freezing ice cream, keeping storage rooms cold, refrigerating trucks, making ice, or conditioning air, you'll find Frick equipment the choice of leading dairies throughout the country. Let us quote on YOUR cooling needs: write, wire or phone

WAYNESBORO, PENNA. U.S.A.
FRICK CO.
DEPENDABLE REFRIGERATION SINCE 1882

woods as cedar and hemlock came in for a considerable showing.

Despite the continued demand, the experiment station predicted that tie production for 1945 would fall off considerably. Main difficulty, of course, is the manpower shortage.

U.S. Dates Thrive

West Coast growers plan to boost their annual yield; hope that good merchandising will retain their wartime gains.

With imports shut off by the war, California date growers found an eager market for their 20,000,000-lb. crop last year. This year the growers expect an equally large crop, and they look forward to boosting the yield to 30,000,000 lb. in the not-too-distant future.

• **Encouragement**—Growers in the Coachella Valley say nobody knows yet how much a date palm can produce under modern horticulture. They have already raised the yield to an average of 250 lb., with 300 lb. as tops. To accomplish this, the growers have spent money on fertilizer, water, and labor. (Typically, the successful date grower is a retired city businessman who does not hesitate to spend money for results.)

While dates were planted by the early missionaries, the industry gots its real start early in this century, when the U. S. Dept. of Agriculture brought in palms. Until the mid-1930's, the crop was not large enough (5,000,000 lb. and under) to warrant cooperative marketing or to compete effectively with imported dates.

• **Growers Organized**—But when growers discovered that fertilizer by the ton, water in acre-feet, and unstinted labor would boost yields far beyond anything the Arab had ever known, the United Date Growers was formed. Since 1937, it has sold 85% of the crop. It is a co-op which takes the fruit, advances the grower some money, and later in the year pays him more. Association expenses, which run around 20%, are deducted.

In the spring, money begins to go out for pollination. The Arab lets nature do it, not very well, but California cuts off male blossoms, dries them, dusts the pollen on to female blossoms. This fertilizes so many bunches that, a little later, they have to be thinned.

Birds love dates, so the bunches are protected by paper bags. Picking involves going over the palms five or six times, with 40-ft. ladders.

• **Promotion**—Imported dates, again coming in, sell at prices with which domestic growers cannot compete. But the Californians are counting on American respect for cleanliness, packages, and brands. Their marketing organization keeps salesmen traveling over the country, helping retailers arrange displays of domestic dates, furnishing display material. Local wholesalers do some local advertising; eventually the association plans national advertising.

Also, plant scientists are seeking new varieties, to supplement the superior Deglet Noor that yields the bulk of the domestic crop.

Dates are not grown in orchards or groves, but in "gardens."

Bagged against birds and dirt, California's date palms under modern horticultural methods reward growers with crops averaging 250 lb. apiece.

UNIFORM FLOUR SACKS

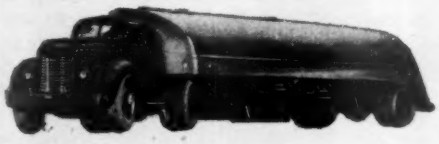
Getting 30 state legislatures to pass any piece of uniform legislation is no mean feat. Getting 30 legislatures to act in a single year is one for the book, an accomplishment chalked up in 1945 by the Council of State Governments and the Millers National Federation in their sponsorship of standardized flour sacks (BW—Dec.9'44,p88).

Last year only three states had adopted the uniform requirement that flour be sold only in packages of 100, 50, 25, 10, and 5 lb. Some 25 sizes were common before the war.

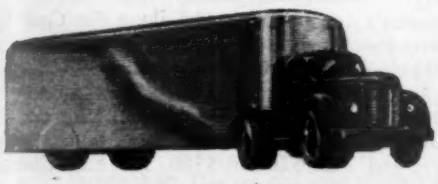
The simplification which has now extended to 33 states was engineered by the War Production Board's Conservation Division with order M-221 (BW—May8'43,p80). Benefits include: (1) elimination of customer confusion over such sizes as 3¼ and 12¼ lb., (2) reduction of millers' packaging expenses.

OUT OF THIS WAR
—the Red Diamond Engine

International Red Diamond Engine. Heavy-duty power for heavy-duty work. Ample power and capacity—surprising economy. Proved in actual combat warfare, now available for civilian service.



The new Red Diamond Engine powers International Models K-8, KS-8, KR-11, and KS-11.



THE rugged requirements of warfare on every battlefront have inspired the engineering genius of American industry.

Out of this war has come, for example, the *new International Red Diamond Engine.*

Tens of thousands of International Military Trucks and Half-Tracks—powered by this new International Red Diamond Engine—have set new transportation and combat records in wartime service.

Many of these mighty Red Diamond Engines have already gone into International Heavy-Duty Trucks for essential civilian use. The men who operate them will vouch for the stamina and economy of adequate power for any job.

When peace comes and new trucks roll out on America's highways, look to International for even greater economy, even greater dependability. And remember—for ten years before the war *more heavy-duty Internationals were sold than any other make.* Backed then, as now, by the *world's largest company-owned truck service organization.*

INTERNATIONAL HARVESTER COMPANY
180 N. Michigan Ave. Chicago 1, Illinois

NEW TRUCKS: The government has authorized the manufacture of a limited quantity of light, medium and heavy-duty International Trucks for essential civilian hauling.

SERVICE: Many operators will have to wait for trucks. Maintenance of existing vehicles is just as important today as before V-E Day. Therefore—be sure your trucks get top care and service at International Truck Dealers and Branches.

INTERNATIONAL HARVESTER

Buy More War Bonds and Keep Them

INTERNATIONAL

INTERNATIONAL Trucks

G-E Watch Dog Fluorescent Starters have been providing efficient and economical service for 30-, 40- and 100-watt lamps in commercial and industrial lighting fixtures for several years. These manual reset starters have saved many manhours of maintenance. They've extended the life of fluorescent lamps with precision starting and positive stopping. Users of fluorescent lighting, engineers and maintenance men all over the nation are switching to Watch Dog Starters, the preferred safeguards for fluorescent lamps.

These three prefer G.E.

1. USERS in stores, offices and factories appreciate lighting fixtures equipped with Watch Dog Starters because they eliminate annoying blink once and for all.

2. LIGHTING ENGINEERS specify Watch Dogs because their precise construction provides unusually long life. The G-E Watch Dog Starter outlasts five ordinary starters.

3. MAINTENANCE MEN like Watch Dogs because they reduce lighting maintenance to the simple job of pushing a red button before relamping. Reset it . . . forget it.

For the complete story about G-E Watch Dog Starters, write to Section G851-102, Appliance and Merchandise Department, General Electric Company, Bridgeport, Conn.

GENERAL ELECTRIC

Horses in Demand

Prices of race animals and best show mounts increased by wartime demand. Number of stock ponies in West grows.

Last fall, when purses were high at all tracks, many a newcomer was attracted into the horse racing business. Not a few of them were small businessmen who had the extra cash to acquire one or more yearlings, in the hope of picking a winner that might bring in future earnings of $75,000 to $100,000.

• **Hit by Transportation Ban**—Those hopes were thoroughly dampened by the racing ban instituted last January (BW—Mar.10'45,p10), roused again when the ban was lifted after V-E Day, only to be dashed a second time last week by two Office of Defense Transportation orders prohibiting railroads and commercial motor carriers from transporting race and show horses.

Chief effect of the new ban will be to restrict racing to such centers as New York, Baltimore, Philadelphia, Boston, Chicago, Los Angeles, and San Francisco, where plenty of horses are already quartered. Owners with large, well-established stables will probably fare better than small-time operators. Wartime entrants into the sport, who naturally fall into the latter class, are worse off because most of them paid abnormally high prices for their trotter or pacer or runner.

• **Price Trend Varies**—Highest prices for horses in this group were paid for yearling runners. At a typical sale of 552 head last fall, prices averaged $4,935—a 65% increase over 1943. Trotters and pacers (yearlings) averaged about $2,000—25% more than the year before, and an all-time high for this class.

Wartime fortunes of other classes of horses have varied. The Horse & Mule Assn. of America reports no appreciable change in the market for draft horses since early in the war, when the supply was far short of demand and prices were 10% to 25% above prewar normals (BW—Jul.24'43,p29).

• **Show Horses Fall Off**—The country's 850,000 riding horses (a general term for horses under saddle) are roughly divided like this: about 150,000 "park hacks" (pleasure horses) owned by private owners or public riding stables in or near cities; about 200,000 used in farm and plantation work east of Kansas City, largely in the southeastern states; and about 500,000 used as stock horses on western ranches.

The first group includes show horses, relatively small in number, but high in value. Top-notch animals still rang between $5,000 and $15,000, their pr war level. But second and third-rate have declined in value. This is pri cipally because horse shows, their no mal market place, have been discontin ued during the war.

Almost equally important factors a high costs of feed and labor. A year training for a three- or five-gaited hor costs $500 to $1,000, for exampl Hence, fewer show horses are being pr duced now when sales are slow. Hors which can be expected to win blu ribbons in middle-grade shows now se for $700 to $1,000, instead of their pre war $800 to $1,500, and those capabl of winning in small shows bring onl $225 to $350, instead of their prewa price of $500 to $1,000.

• **Riding Schools Prosper**—As a resul many animals in the latter class, tha would normally go to private owner are being purchased by public ridin stables. Such establishments also buy m tired cow ponies; these are seven- o eight-year-old stock horses which have a ready served their time herding shee or cattle, and hence can be sold cheape ($150 to $200) than gaited park hack Sixty dollars to $125 still buys the com monest public stable horse, a ten-yea old with some draft blood, admittedl selected for his sluggishness. Ridin schools, incidentally, are doing a lan office business, largely because man young war workers have, for the fir time, enough cash to indulge in a spo that has heretofore epitomized luxur

• **Stock Horses Up 25%**—In contrast t pleasure horses, stock horses on weste farms and ranches are increasing in num ber, and their value, about $125 pe head, is 25% above normal. Fast, wel bred animals known as "cutting" horse because they are trained to segregat a specific sheep or steer from a her bring $300 to $1,200. Riding hors used for supervising farm labor in th East and Southeast now average $15 per head, which is 20% above normal.

Strength of the present market fo riding horses was indicated last ye when the Treasury Procurement Di vision disposed of 25,000 older, less fi cavalry-type horses, without noticeabl affecting prices.

In Texas and along the Gulf Coas a horse-breeding area, these horse brought only $40 to $50. More tha 2,750 horses which would normall bring not more than $90 sold alon the Pacific Coast for $100 a head, som for $200 to $500. The East Coast ma ket was spotty.

• **Color Affects Price**—Color makes difference in today's prices. Humphre Finney, field secretary of the Marylan Horse Breeders' Assn., who assisted i the Army sale, reports: "If you hav

Do you know...?

How many people "Duplex-Roomette" Pullmans will sleep?
How insulating-glass windows are made?
How blouses get their hand-painted look?

#19

Q. "Duplex-Roomette" Pullmans now being designed may accommodate up to:

☐ 12 people ☐ 24 people ☐ 34 people

A. These Pullmans of tomorrow will accommodate 24 people in complete comfort and ease. In making Pullmans, coaches, buses, and vehicles of all kinds, Permacel Industrial Tapes can be widely used to cut production costs and time. Permacel paper masking tape can help speed two-tone painting. Permacel cloth tape (Jonflex), used to bundle related parts, can help speed assembly. Permacel's companion, Texcel cellophane tape, in colors, can be used to identify complicated wiring systems and pipe lines, to shorten installation time, and to make future maintenance easier.

Q. How soon will insulating-glass windows be available for homes?

☐ Available now ☐ 6 months ☐ 1 year

A. Housing experts say insulating-glass windows are available for homes now. In fastening insulating glass in frames, Permacel moisture-proof cloth tape (Utilitape) is used to prevent cement from etching the glass, and also prevents cement from seeping between layers and causing discolorations.

Q. The subject of this booklet is:

☐ Plastics ☐ Tape ☐ Electricity

A. This booklet shows how Permacel Industrial Tapes speed production and cut costs at every step along the production line. Also illustrates and lists many applications that may be helpful now, and can be even more valuable when you tool up for peace production. Write us for a free copy. Dept. BW-19, Industrial Tape Corporation, New Brunswick, N. J.

Q. Figures on this blouse were put on by:

☐ Hand ☐ Silk Screen ☐ Embroidered

A. Figures on many blouses that have an expensive, hand-painted look are put on by the silk-screen process. In using this process, Permacel cloth tape (Jonflex) is placed wrong side up on the work table, and the blouse is fastened to it, instead of having to be pinned by hand. This saves time, ensures more accurate printing.

IMPORTANT: *Our research laboratories are at your disposal for development of special tapes to meet war and postwar needs.*

Permacel Industrial Tapes

INDUSTRIAL TAPE CORPORATION • New Brunswick, N. J. Makers of **Texcel Tape**

"PERMACEL" REG. U. S. PAT. OFF.

yet inadequate electrical wiring can rob appliances of that much performance—

. . . *In postwar planning,* Wire ahead

YOU MAY spend a good deal on future electrical comforts—a new refrigerator and range, de luxe laundry equipment, advanced heating, perhaps air conditioning, and a host of appliances.

Don't undermine this investment. Realize that out-of-date electrical wiring in the house can cut equipment performance twenty-five to fifty percent!

If you anticipate an increased electrical load on *your* wiring, make sure to have enough circuits, service devices and outlets. In other words, check up on your postwar wiring plans now and avoid expensive changes later.

Business executives! Don't neglect *your* postwar wiring plans. It costs nothing to check them now, but it may cost plenty later for shutdowns, alterations. Talk it over with your consulting or plant power engineer, electrical contractor or power salesman. They'll agree that it's always wiser to Wire Ahead! Anaconda Wire & Cable Company, Subsidiary of Anaconda Copper Mining Company. General Offices: 25 Broadway, New York City 4. Chicago Office: 20 North Wacker Drive 6. Sales Offices in Principal Cities.

✓ Check your wiring plans before they check you!

HELP BRING VICTORY SOONER
. . . BUY MORE WAR BONDS

ANACONDA

ANACONDA WIRE & CABLE COMPANY

a bay horse worth $150—I mean the 1,100-lb. ordinary type you ride at any riding school, or can buy anywhere for $140 to $150—if he is gray he will bring $25 more; if he is spotted he will probably bring up to $200, but if he is a Palomino, he is worth almost any price" ($400 to $600).

FCC Wants Light

Hearing on Crosley Corp. sale to Aviation Corp. may bring request to Congress for legislation clarifying powers.

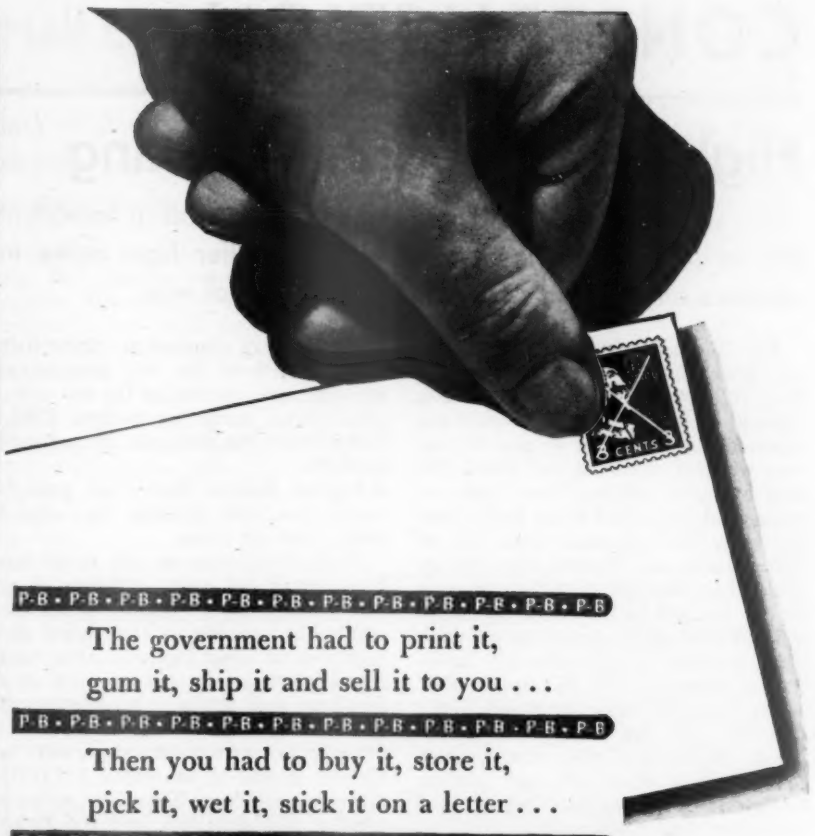
With the way cleared for transfer of the $22,000,000 Crosley Corp., Cincinnati, to Aviation Corp. (BW—Jun.25 '45,p32), both interests this week were completing the change-over of all the Crosley interests except Crosley Motors, Inc., and Crosley Marine, Inc. The Federal Communications Commission, by a 4-to-3 vote, approved transfer to Avco of control of WLW, 50,000-watt clear channel radio station, and six international shortwave stations owned by Crosley.

• **Going to Congress**—The Crosley-Avco decision is expected to result in recommendations to Congress for legislation clarifying the FCC's powers with reference to (1) whether the commission has any control over sale prices of stations; (2) whether it can exclude manufacturing interests from the radio field; and (3) whether it can issue a license for a station when the principal officers and directors are absentee owners.

The FCC said that its seven members were unanimous in the belief that clarifying legislation is needed. Commissioners C. J. Durr, Paul A. Walker, and Ray C. Wakefield objected to the transfer of WLW. Chairman Paul A. Porter, and Commissioners Charles R. Denny, Jr., E. K. Jett, and William H. Wills approved.

• **WINS Hearing Set**—Scheduled for hearing before FCC Aug. 20 is the proposed sale of WINS, New York, by Hearst Radio, Inc., to the Crosley Corp. for $1,700,000 plus $400,000 in time commitments. Avco has assumed obligations created by the Crosley Corp.'s offer for WINS.

Both Victor Emanuel, Avco board chairman, and Irving B. Babcock, president, told the commission that James D. Shouse, vice-president of the Crosley Corp. in charge of broadcasting, and Robert E. Dunville, vice-president and general manager of WLW, would remain in their respective posts, both men being named to the new Crosley board.



P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B

The government had to print it,
gum it, ship it and sell it to you . . .

P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B

Then you had to buy it, store it,
pick it, wet it, stick it on a letter . . .

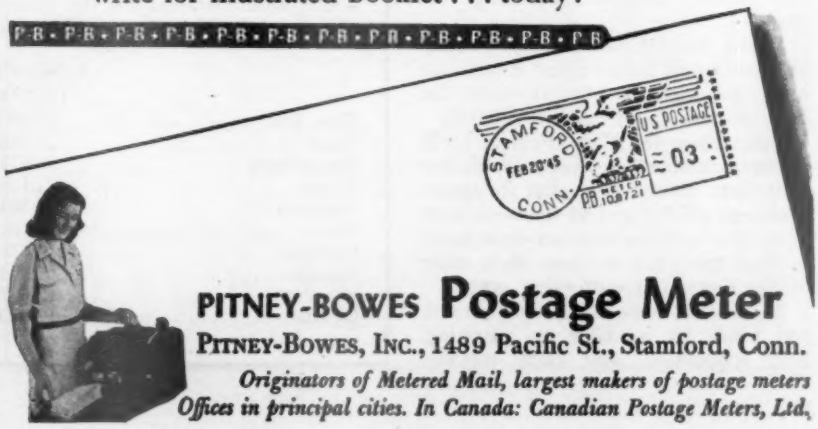
P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B

A postage meter does the job better,
in your own office . . . prints on the
envelope any value of stamp needed for
any kind of mail, seals the flap at the
same time, does its own accounting . . .
Saves time, effort, and usually postage.
Helpful in any office, large or small . . .

P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B

Pitney-Bowes is making postage meters
again . . . Call our nearest office, or
write for illustrated booklet . . . today!

P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B • P·B



PITNEY-BOWES Postage Meter

PITNEY-BOWES, INC., 1489 Pacific St., Stamford, Conn.

Originators of Metered Mail, largest makers of postage meters
Offices in principal cities. In Canada: Canadian Postage Meters, Ltd.

CONSTRUCTION

Highway Blueprints Lacking

Federal-state building program, counted on as important link in postwar employment plans, may suffer from delay in advance engineering and acquisition of rights of way.

For 20 years before this war the federal government spent $75,000,000 to $150,000,000 a year for road building. Double, perhaps triple, that amount was expended by the states to give the nation its great motoring and transportation highway system. Now many of those roads are obsolete, or badly worn by heavy war demands and lack of maintenance, and the men who must rebuild them are still in the armed services or engaged in more essential tasks.

• **$3,000,000,000 Program**—Anticipating the day when construction can be resumed, Congress last December (BW—Dec.9'44,p19) voted to spend $500,000,000 a year for three years on city-to-city express highways, fast through routes within cities, off-street parking facilities, circumferential routes, and secondary rural roads.

The federal aid is to be matched by state funds so that altogether some $3,000,000,000 will be available for 40,000 miles of express highways and additional secondary mileage—the biggest road-building program in history.

• **Planning Urged**—Many state highway departments already have shelves full of blueprints, and several cities have projects approved by the Public Roads Administration. However, a sudden end of the war in the Pacific would catch most of the others with money, materials, and manpower but no plans.

To push the program out of low-speed, the Public Roads Administration and the American Road Builders Assn. are urging local and state authorities to go ahead with their projects as fast as the present manpower handicap will permit.

Public Road Commissioner Thomas H. MacDonald believes that if plans are ready, the first year of work under the new program could employ 700,000.

• **States Have the Cash**—Federal funds for construction aren't yet available but each state knows now what its apportionment will be, and 44 states—because of swollen wartime revenues—have funds in their treasuries to cover their share of the first-year construction costs.

In addition, some $60,000,000 in federal funds are available for planning, land acquisition, and earth moving. Congress may, moreover, appropriate $100,000,000 of the new program at any time, and the end of the war emergency would make the total of $500,000,000 for the first year immediately available.

• **Express Routes First**—First projects undertaken will probably be express routes into big cities.

Traffic congestion on city streets has been one of the major problems of recent years. Now, for the first time, federal aid is available to help defray the high costs of urban highways. Attention is being focused on such projects as a four-lane dual roadway running north and south through Denver, to cost $14,500,000; two crosstown express ways in Detroit as part of an annual $12,000,000 program; New York City projects totaling $100,000,000; and the eight-mile Congress Street eight-lane expressway from Chicago's western limits to the downtown loop and lakeshore. Memphis has begun work on a four-lane Mississippi bridge to cost about $8,000,000 with approaches. In Baltimore a harbor bridge to take traffic from one side of the city to another, without having to struggle through the business district, is being debated.

Now that Congress has removed the restriction against using federal funds for city thoroughfares (and also another on using federal money for off-street parking), the main stumbling blocks to making the life of city motorists happier are (1) dilly-dallying and legal obstacles in condemnation of blighted business areas where parking spaces may be built; (2) fears of businessmen that bypass roads will hurt downtown shopping; and (3) acquisition of rights of way.

• **Cities Get a Break**—Urban drivers will be favored in the construction program because highway studies show they do most of the driving. In gasless 1944, for instance, 96,000,000,000 miles of urban travel were reported against 75,000,000,000 miles of rural travel. Trips of less than 20 miles account for 85% of all trips, and only 5% are over 50 miles.

The Public Roads Administration thinks it is more important to get people to their work, and to make their daily shopping excursions easy, than to build long, straight arterial highways for the annual vacation trips—although these will not be neglected.

PRA also points out that circumfer-

States Ready to Match Federal Road Funds

As soon as war conditions relax sufficiently to permit resumption of highway construction, the federal government will make available to the states for this purpose $500,000,000 a year for three successive years. Each state's allocation must be matched dollar for dollar with state funds, and in 44 states funds are already in state treasuries to match the first year's allocation.

• **Worried About Plans**—The Public Roads Administration and the American Road Builders Assn. are beginning to worry over whether a sudden green light on construction would catch many states with few completed plans. Available statistics would seem to confirm this worry. As of Apr. 30, only three states—California, Connecticut, and South Carolina—and the District of Columbia had enough plans in a finished form to make use of the first year's allocation (federal and state funds combined). The picture in the ten states with largest allocations of federal funds is (figures in thousands of dollars):

	Federal Funds, First Year	*Total Funds, First Year*	*Construction Cost of Completed Plans*
New York	33,892	67,784	23,000
Texas	28,766	57,531	26,006
Pennsylvania	24,973	49,946	41,318
Illinois	23,120	46,240	12,282
California	22,303	44,606	76,180
Ohio	20,102	40,204	16,328
Michigan	16,638	33,277	17,057
Missouri	14,374	28,748	20,516
Minnesota	12,432	24,864	22,402
Indiana	12,090	24,181	14,952

ntial roads around a city's business enter may not be the threat to local rade formerly feared.

Trucking Outlook—Some highway experts say that long-haul trucking will not increase startlingly after the war because rejuvenated railways and commercial air-freight will tend to make trucks most profitable on short hauls in and around great centers of industry.

Such theorizing strengthens the plans for better urban highways. Only 54% of cities of 10,000 population or more will be on the proposed 40,000-mile network, but all cities over 100,000 (except three in Ohio) will touch it, and an aggregate of 83% of the U. S. urban population will be served.

Emphasis on Speed—The new intercity expressways will follow the best engineering practices developed just before war halted all highway construction except roads required for war purposes. The expressways outside the prairie states will have almost no grade crossings, and access roads will be tolerated only where necessary.

Curves and visibility dependent on hills, woods, or other obstructions will be engineered for a speed of 70 m.p.h. PRA doesn't expect that such speed will be allowed by the states as the legal limit, but is realistically trying to protect fools, drunks, and emergency drivers and the autoists they meet.

Use of novel materials is definitely not in the program. Cotton will be used in some regions as a temporary covering to help cement dry slowly without checking.

Procedures Scanned—Changes in procedures for acquiring of rights of way will be great. New York state last year set the pace by establishing a central acquisition agency with efficient methods of dealing justly with property owners.

In 55 jurisdictions, the National Interregional Highway Committee found 320 methods of acquiring property.

One of the major problems facing the 45 state assemblies in session this year is simplification of this mess. Thus far not much headway has been made, but perhaps the most successful method is to reroute a rural highway rather than to try to widen it. The proposed parkway between Washington, D. C., and Baltimore, for example, will not follow the old road, now lined with juke joints and closed gas stations. Instead, it will pass through parts of Fort Meade and Greenbelt, federally owned land.

Savings on new routes are illustrated by the case of New York's Albany Post Road. Acquiring the land to widen the road from 66 ft. to 166 ft. would have cost $792,000 a mile, while for the substitute Saw Mill River Parkway, land was acquired, to a width averaging 500 ft., for $138,000 per mile.

Half Enough Plans

Federal agency fears that lack of blueprints and cash may deprive construction industry of postwar project cushion.

Outlook for public construction for the first postwar year as a cushion against depression in the construction industry is not bright, according to Maj. Gen. Philip B. Fleming, Federal Works Administrator.

• **Far From Goal**—Plans for postwar public works now ready to go total $2,500,000,000. But that is only about half of what presumably is needed as the public construction quota to assure nearly full employment under a hoped-for national income of $150,000,000,000 (BW—Jun.30'45,p116). Completed state and local plans cover $1,000,000,000 worth of construction at face value, the Federal-Aid Highway Act (roads and streets) covers another $1,000,000,000 (page 58), and federal works $500,000,000 for flood control, reclamation, harbor works, and public buildings.

But state and local plans have to be discounted because counties and cities probably can't put more than $600,000,000 into construction the first year. A survey by the Federal Works Agency shows, in fact, that states have only about one-third enough money in hand to implement the plans they have. This leaves the load on the debt-burdened federal government, or on private construction.

• **One-Fifth Enough Cash**—Construction activities normally account for one-tenth of the national income, which would be a hypothetical $15,000,000,000 of the gross national income goal. One-third is normally federal construction, or another hypothetical $5,000,000,000.

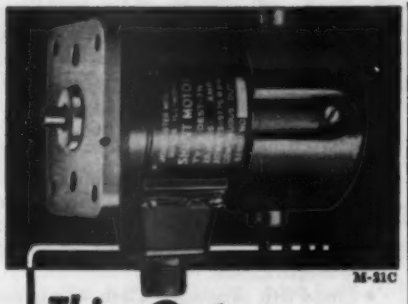
Such totals have never been reached in the past and when the late President Roosevelt proposed that Congress provide $75,000,000 to plan for the $15,000,000,000 goal, Congress cut the appropriation to $17,500,000. This sum is enough for only $350,000,000 worth of construction. There is little to indicate that private industry has plans to provide its two-thirds, $10,-

Construction Planning Gets FWA Approval

Under the War Mobilization & Reconversion Act, the Federal Works Agency is authorized to lend money without interest to states and cities to blueprint public works to stimulate construction after the war. The loans are to be repaid when construction is begun.

This is the first group of loans, aggregating $1,004,443, for the planning of 36 projects to cost $51,000,000:

Location	*Facility*	*Estimated Cost*	*Federal Advance*
Springdale, Ark.	Water	$277,550	$12,000
Fort Myers, Fla.	Water	281,000	10,300
Albany, Ga.	Recreation	186,128	5,000
Windsor Heights, Iowa	Sewerage	90,800	1,500
Opelousas, La.	Sewerage and drainage	365,672	11,008
Jennings, La.	Sewage disposal	176,000	6,400
St. Louis, Mo.	Hospital	1,100,000	34,000
	Miscellaneous public	1,400,000	33,000
	Street improvement	420,000	12,500
	Recreation	165,000	7,500
New York City	Wholesale produce market	42,425,000	750,000
Tulsa, Okla.	Water	505,000	11,250
Claremore, Okla.	Water	166,070	5,555
Wallingford, Pa.	School	356,894	13,096
Beaver, Pa.	Sewers and treatment plant	168,000	6,000
Britton, S. D.	School	160,000	850
Fort Worth, Tex.	Water	430,000	12,500
Texas City, Tex.	Sewerage and drainage	242,125	8,575
	School	750,000	10,425
Waco, Tex.	Sewage disposal and storm sewers	336,000	12,126
Itasca, Tex.	Sewage disposal plant	34,500	1,425
	Water	30,000	1,233
West University Place, Tex.	Street	277,000	8,300
Liberty, Tex.	Water and sewer	126,000	4,350
Franklin, Va.	Municipal building	63,000	3,000
Wheeling, W. Va.	Garage	375,000	16,000
Oak Hill, W. Va.	Sewerage	219,500	7,000



M-21C

This Oster Motor

has proved its ability to perform dependably in aircraft applications

1. Designed primarily for low voltage D.C. applications.
2. Conservative rating makes these motors suitable for operation in high ambient temperatures.
3. Higher starting torque results in excellent starting characteristics in low ambient temperatures.
4. Compact, rugged construction as well as light weight makes these power units worthy of consideration when selecting motors for numerous aircraft applications.

Oster FRACTIONAL H.P. ELECTRIC MOTORS

Illustrated — Type DEST-11M
Totally enclosed, fan cooled, air over motor. A motor that delivers maximum output where application demands a totally enclosed motor.

Let us help you fit this or other Oster motors to your requirements.

John Oster Mfg. Co.
Dept. B-21 • Racine, Wisconsin

DO YOU WANT NEW PRODUCTS Devices · Processes for Postwar Manufacture?

• Are you ready to meet severe postwar competition? Our "New Products Service for Manufacturers" will enable you to obtain new products and processes without encountering the usual expense and difficulties. In addition to the many products now available, we have a steady flow coming in as the result of our long experience and organized effort in this field.

We study your facilities, experience and distribution set-up and submit only the items that deserve serious consideration. Our engineering background has proved invaluable to clients having difficulty deciding what type products they should seek. Here is a reasonable cost service that will begin to function immediately for your company.

Time is valuable. Phone, wire or write for details of this service.

New Products Division
DESIGNERS FOR INDUSTRY, INC.
2915 DETROIT AVENUE • DEPT. B
CLEVELAND 13, OHIO

000,000,000 of construction, as soon as Japan is defeated.

• **Fewer Private Builders**—FWA sees no competition between federal building and private industry and claims the two supplement each other.

But FWA points out that according to the Census of Construction there were 212,000 contractors in 1939, relatively few of whom did more than $25,000 worth of work a year, and that this number has probably fallen to 150,000 now. From this FWA argues that it is too much to expect that private construction can plan $10,000,000,000 of work for the first postwar year.

Federal funds for blueprints, Fleming says, are insurance against emergencies such as arose before the prewar WPA was created. Much of the criticism of raking and shoveling at that time may be attributed to the fact that plans for genuinely useful jobs were lacking.

• **FWA Offers Help**—Information for state and municipal applicants who want their share of the $17,500,000 available under the War Mobilization & Reconversion Act is contained in a pamphlet issued by FWA's Bureau of Community Facilities, Washington 25, D. C., or at eight divisional offices.

Applications for advances for public housing projects, federal projects of federal agencies, and federal public roads or state highway projects are not eligible.

Bigger "Big Ditch"

Panama Canal engineers prepare billion dollar project to speed the transit of more and bigger ships after the war.

Except for troop and supply movement the war is over for the Panama Canal, and its engineers are mulling over postwar plans of works in the billion-dollar class—it cost a half billion to completion in 1920. Danger of attack is close to zero.

• **Three Projects**—This set of isthmian construction plans will be outlined to Congress soon after V-J Day by engineers and strategists who, in the early forties, feared that a well-placed demolition charge might release the waters at Gatun Lake, which feeds the canal's six pairs of locks:

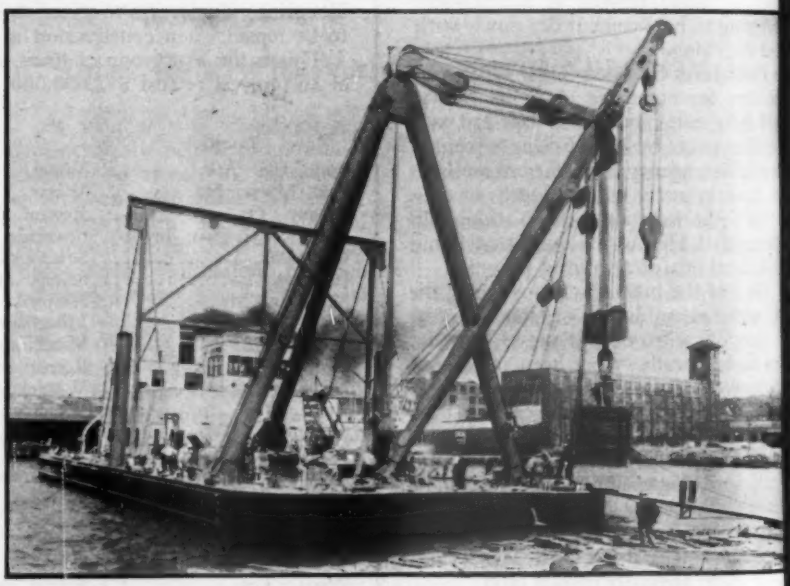
(1) Complete the third set of locks on which work was stopped when the war began, after about $70,000,000 had been spent on excavation.

(2) Cut the present canal down to sea level.

(3) Build a second canal in Nicaragua.

• **—And Three Reasons**—Three major reasons for doing one or more of these jobs may be presented:

(1) If business goes into the doldrums, either the second or third project



GREAT LAKES WEIGHT LIFTER

In tests on Muskegon Lake, Mich., a mighty floating derrick, the Paul Bunyan (above), proves its right to its name by lifting a piece of scrap metal weighing 250 tons. Built for the Army by Wiley Equipment Co. of Port Deposit, Md., the $1,000,000 derrick's job is to keep the vital Sault Ste. Marie locks in condition. Water in tanks on either side of the barge keep the giant upright.

ANOTHER EXAMPLE OF JOHNSON
Individual Room TEMPERATURE CONTROL
Since 1925—
APARTMENT CONVENIENCE • SMALL HOME COMFORT

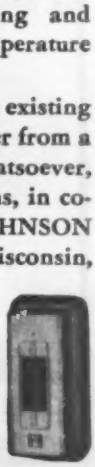
Rittenhouse Plaza Apartments, Philadelphia, Pa. Mr. N. Allen Brandriff, managing agent. Ralph B. Bencker, architect; Wm. M. Anderson, mechanical engineer and heating contractor.

Look at the small, inconspicuous instrument on the wall. Think of the constant, watchful service which it performs. A Johnson thermostat, in each room, commands the operation of the heating system, which is far away in the basement. Here is another modern wonder of science!

"For twenty years," says Mr. Brandriff, managing agent of the Rittenhouse Plaza Apartments in Philadelphia, "tenants have enjoyed the comfort of individual room heat control . . . The automatic control has functioned with a minimum of maintenance. In addition to the comfort, we enjoy a considerable fuel saving, by eliminating the overheating always experienced when radiators are controlled manually."

That is why 561 Johnson "Room-by-Room" Thermostats were installed in Rittenhouse Plaza. The fact that even more than the expected comfort and fuel saving have been experienced, in this building, is another reason why Johnson is called upon, time after time, to solve the next automatic temperature control problem for the same people. The Johnson organization—designing, manufacturing, engineering and installing—is well known as a corps of temperature control experts.

Johnson control may be installed in either existing or new buildings. Ask for a Johnson engineer from a nearby branch office. With no obligation whatsoever, he will make a survey and recommendations, in cooperation with your heating contractor. JOHNSON SERVICE COMPANY, Milwaukee 2, Wisconsin, Direct Branch Offices in Principal Cities.



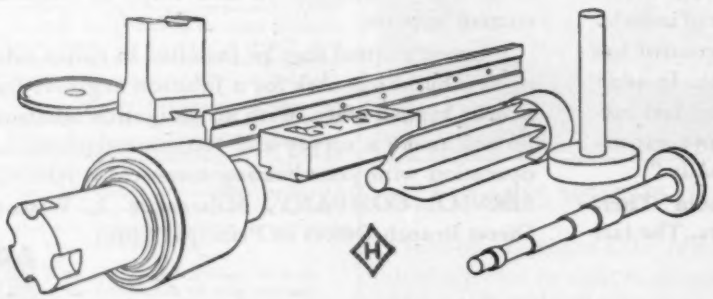
JOHNSON *Automatic Temperature and Air Conditioning* **CONTROL**

DESIGN • MANUFACTURE • INSTALLATION • SERVICE

Axiom: a straight line
is the shortest distance between two points *

***It's almost as dependable as a Heppenstall Forging**

. . . and the shortest, quickest, most economical way to volume markets is via stronger product sales appeal . . . *Suggestion* . . . Heppenstall Forgings incorporated in the vital parts of the things you make will assure *extra* service, *satisfied* customers, *repeat* business. The name Heppenstall has acceptance. It's rather generally acknowledged as the last word in forging quality. This may be your answer to stiffer competition. Write Heppenstall Co., Pittsburgh 1, Pa.



HEPPENSTALL *the most dependable name in forgings*

would be a handy and sizable piece
a work relief program.

(2) The armed services may ar
for faster transit through the ca
capacity for bigger ships (especially
craft carriers), and more protection f
enemy attack. And they may want
have work started immediately.

(3) According to prewar tr
studies, commercial necessity for
creasing the canal's facilities will sh
up around 1960. And since additio
transit capacity will then be neces
for commerce, the services may ar
that the only cost of meeting their
mands at once would be the interest
construction cost between then and
date of inevitable commercial need.

• **Another "Track"**—Looking at
merits of the three proposed jobs,
perts explain that completion of
third set of locks would be adding
third track" to the present "dou
track" canal.

Existing locks are in pairs of t
and ships going in opposite directi
can pass in the locks, in the cut, and,
course, in the lake. The third set wo
be wider and longer, and would s
stantially increase the canal's capac
for size and number of ships.

The new locks, for which excavati
is nearly complete, are at such dista
from present installations as to be
another target pattern for air atta
Completion would not, however, a
any protection against sabotage
bombing of the Gatun Lake sup
dams, a point in favor of lowering
canal bottom to sea level.

• **Lockless Canal Preferred**—Lower
the present canal to ocean level wo
mean an 85-ft. maximum dropping
the channel's bottom at a cost of ab
one billion dollars. To get a 300-
wide bottom, the sides of the ca
have to be cut back proportionately.
sea-level canal would carry ships of
presently foreseeable size and wo
transit more of them, and faster. Ti
is important to ship owners, beca
operating costs, wages, and insurance
ship and cargo go on with time.

Most defense officers would like t
ocean-level channel, because it wo
have no locks and no dams to
bombed. Such a canal could
sabotaged by sinking a ship in it, bu
sunken ship could be quickly remov

• **A Surmountable Problem**—Curbst
engineers have spread stories that diff
ence in tide levels of the Atlantic a
Pacific (about 10 ft.) would cause p
hibitive currents to run both ways i
sea-level canal. They are not aware t
such currents could be prevented by
construction of simple, low-press
gates, which would be used dur
hours of marked tidal differences.

Canal authorities say the present

ould be brought down to sea level in hree steps, beginning at the top level, ith continuous service through one of he two locks. This would mean all wet xcavation, some of it deep, which is low and expensive. Gatun Lake and its ributary Madden Lake would be bliterated.

Nicaragua Project—Much more pre-entious, and much less probable of uthorization, is the proposed water assage through Nicaragua, some 400 iles to the north of Panama.

Military experts do not agree on the actical value of a Nicaraguan passage. ome point out that two canals (the anama Canal would be retained in any ase) would create two defense jobs in-tead of one, and that enemy forces trong enough to take one could take oth. Others reply: Yes, but successful abotage of one would leave us another, dding that the advent of air power hanges the defense picture somewhat: he same air force could defend both anals.

After Panama Pattern—The notion xists that the proposed Nicaragua cut ould be at sea level. That would be a heopsian dream, for the route is 72 miles long and the maximum depth ould be around 100 ft. Besides, Lake icaragua and Lake Managua, both im-ortant in the life and commerce of the ountry, would be drained.

The actual proposal is a canal similar o that at Panama, with six locks, three teps down either way, from the high ater level of 115 ft. Lake Nicaragua ould constitute 30 to 50 miles of he 172-mile route, depending upon esign. Strong arguments will be rought against slow transit time on uch a channel, and particularly against ts cost, which in the twenties was esti-nated at about $750,000,000. Today it ould be something more than a billion.

ALL-DIESEL RAILROAD

New York, Susquehanna & Western R.R., operating 261.67 miles of track in New Jersey, recently became the na-ion's first all-diesel Class I railroad.

The road's 16 diesel-electrics, ac-quired in a program which began in 941, replace 32 steam locomotives. Built by American Locomotive Co. and General Electric, they will save an esti-nated $400,000 a year in operating osts, according to G.E. The Susque-anna's principal traffic is coal.

In achieving this distinction, the Susquehanna took the honors which the New York, Ontario & Western Ry. last ummer set out to earn (BW—Aug.19 44,p42). Inability to obtain private inancing forced the Ontario to curtail its ambitious plans (BW—Apr.14'45, 70).

IF YOUR plant needs increased compressed air supply, you'll find this new Wayne idea interesting. The Wayne Auxiliary Unit Plan, explained in the illustrated booklet offered here, provides needed expansion of air facilities quickly and with comparatively slight investment. Smaller compressors installed in vital departments eliminate danger of plant failure caused by lack of air, provide air at higher pressures for special processes or tools, and save the cost of operating the big central unit when a single department works overtime. Such units may be moved about or manifolded in banks. Write for your copy today . . . get the whole money-saving story.

Industrial Division
THE WAYNE PUMP COMPANY
FORT WAYNE 4, INDIANA

Wayne AIR COMPRESSORS

SAVE FUEL
WITH A HEAT RECOVERY SILENCER

Maxim Heat Recovery Silencers for internal combustion engines offer an obvious saving of fuel because they produce steam or hot water from waste exhaust heat and use *only the fuel normally used in engine operation.* Highly efficient heat transfer is assured by extended heating surfaces.

In addition these units provide effective silencing of engine exhaust noise and, where desirable, 100% spark arresting. For greater efficiency in plant operation, investigate Maxim Heat Recovery Silencers.

THE MAXIM SILENCER CO.
88 Homestead Ave., Hartford, Conn.

This Bulletin
gives 8 pages of information and illustrations, plus working hook-ups thoroughly explained. Simply ask for Bulletin WH-101.

MAXIM SILENCERS

FINANCE (THE MARKETS—PAGE 118)

Maine's Potato Road Digs In

Bangor & Aroostook, with earnings largely dependent o single crop, has steadily improved financial position since setba of 1938-40. Wall Street notes freedom from reconversion worrie

Maine's Bangor & Aroostook R.R. isn't very old, isn't very long, and to most Americans isn't very well known, if at all. A non-New Englander, however, could make no greater mistake than to write the road off as "small potatoes," for that is what it is not.

Over the Bangor & Aroostook rails each year travels the East's principal supply of winter potatoes. The line also hauls seed potatoes which account for much of the crop raised in other sections. Railroad and stock exchange circles refer to it as the "Potato Road" more often than by its corporate title.

• **Built for Lumber**—Founded in 1891, the Bangor & Aroostook operates a 259-mile main stem (mostly single track) with 387 miles of potato-fed branch lines. Originally built to haul lumber, the road has been known to get as much as 1,067,000 tons of high tariff freight a year in the form of potato shipments.

As recently as 1924, when the Aroostook Construction Co. sold the 93% common stock interest through which it had controlled the road from its beginning, the B. & A. was still essentially a lumber line.

• **Prediction Borne Out**—Even in 1924 the management (always dominated by hard-headed Down Easters) had more than an inkling of what might be in store. It then predicted that agricultural products, a considerably more profitable traffic, would soon outstrip Aroostook's lumber shipments.

Never was a forecast more to the point. By 1943, the best potato year on record, Aroostook's haul of spuds, on a tonnage basis, was 1.75 times its traffic in both forest products and newsprint.

Aroostook County, Me., where most of the Aroostook's mileage is located, has grown into the nation's largest commercial potato-producing area. Consequently, the road is now more dependent for traffic on a single commodity than any other Class I system except for the roads in the so-called Pocohantas group, which normally derive two-thirds to three-fourths of their freight revenues from hauling bituminous coal.

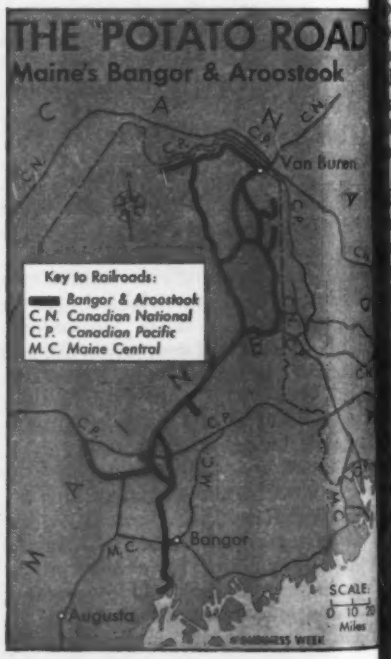
• **The In-Bound Haul**—In recent years, the Aroostook has usually obtained one-half or more of its freight revenu from its potato haul. But that's not a Its less-than-carload freight and tra in manufactured and miscellaneo goods, which produce another third freight receipts, are likewise governed spuds. For the size and market va of Aroostook County's potato cr determine the area's purchasing po and the system's in-bound haul.

The Aroostook has never once be the subject of any financial reorgani tion. This is a novel record in the r industry, and potatoes deserve part the credit.

Particularly gratifying to managemen and stockholders was the road's p formance during the depression 193 when one leading railroad after anot was forced to throw in the sponge.

• **People Must Eat**—The road profit greatly from its dependence on t lowly potato, rather than on such ite as motor cars and pianos. Earnin sufficed to warrant yearly common sto dividend payments of at least $2 share (often $2.50) through 1937.

But, despite an over-all performan in the last two decades more favorab



han that registered by the Class I oads as a whole or by neighboring New England systems, life since 1929 asn't been all open track for the Bangor & Aroostook.

In 1938, 1939, and 1940, for exam-ple, the road got some bad bumps that inally forced it to stop dividends on its ommon stock for the first time since 1904 and dividends on its preferred hares for the first time since their ssuance in 1917.

Bad Crops Plus Trucks—Partly re-sponsible for this were two bad potato crops followed by such nationwide over-production in 1940 that Aroostook growers found it more profitable to dump their spuds into Maine's potato-starch factories than to ship them to market.

Water competed too. Starting in 1931, more and more idle shipping was put to work hauling potatoes to the Boston, New York, Philadelphia, and outhern markets at less than the all-rail ariff to those important consuming reas.

For a time, this did not hurt the Aroostook and was even beneficial. Searsport, its Penobscot Bay tidewater erminal, was the principal port used. This meant that potatoes destined for hipping by water would get a longer haul on Aroostook rails than usual, since he road's normal practice is to turn over most of its potato traffic at Bangor unction, some miles north of Searsport, o the Maine Central.

New Outlets Started—Later, however, wo more Penobscot Bay "wharf mar-kets" were set up, including one oper-ated by the Great Atlantic & Pacific Tea Co. To assure themselves of full boatloads, these new outlets started to offer 5¢ a bushel more for spuds trucked o them than growers could get by hipping by rail to Searsport. In the ate 1930's the road was forced to cut its tariffs on potatoes about 10% or $16 o $32 a car, depending on destination.

Before war conditions stopped all hipments of potatoes by water in 1942, however, the Aroostook appeared to be egaining its stride. Since resumption f water shipments in late 1943, only Searsport has been used, and there has been no sign that the competing wharf markets will reopen. Moreover, the Aroostook's management says that those who began trucking spuds soon found it uneconomical due to damage done by the weather that prevails during Maine's potato-shipping season.

Helpful Habit—The Aroostook County custom of holding its potatoes after har-vesting, and not marketing them until the following winter and early spring months, has helped Maine's Potato Road in other ways. It has enabled it o contract with outsiders for the re-frigerator cars needed to handle such seasonal traffic and thus has eliminated expensive carrying charges for idle equipment during the off-season.

The relative quiet the road enjoys for seven months of the year has permitted it to garner much "other income" from equipment rentals in recent years. Most roads pay out more than they receive in this connection, but Aroostook's ex-cess of rental receipts over rentals paid to other roads actually amounted to more than 25% of its $947,000 net income for 1944.

Down With the Debt—The Aroos-took started years ago to reduce its

1945 Earnings Start Off Well But—

Because of war order cutbacks, a downward trend in manufacturing activity has become well established in recent months. Industrial earnings generally in the first half of 1945, however, show relatively few effects of this decline. Despite some sharp individual exceptions, most of the early six-month reports make pleasant reading for stockholders, as indicated in the compila-tion below. But the stockholders may be less satisfied from here on.

The Dept. of Commerce, for example, expects national income and gross national product in the last six months to drop some 10% under first-half levels. It looks for corporate earnings also to fade, though industrial profits as a whole may exceed the volumes in many of the most properous peacetime years.

	1945		1944	
	Net After Taxes	*Federal Taxes*	*Net After Taxes*	*Federal Taxes*
Amalgamated Leather	$219,000	$575,000	$243,000	$741,000
American Brake Shoe	1,348,000	1,925,000	1,239,000	1,640,000
Beechnut Packing	1,069,000	2,140,000	1,267,000	3,230,000
Bethlehem Steel	15,738,000	42,550,000	13,166,000	49,800,000
Bridgeport Brass	973,000	3,093,000	634,000	3,035,000
Budd Mfg.	802,000	2,527,000	1,334,000	5,165,000
Butler Bros.	924,000	2,256,000	561,000	1,448,000
Commercial Solvents	1,250,000	3,326,000	1,157,000	2,567,000
Consolidation Coal	962,000	849,000	955,000	634,000
Continental Baking	1,369,000	1,320,000	1,414,000	1,338,000
Corn Products Refining	3,999,000	6,196,000	3,285,000	2,283,000
Cutler-Hammer	634,000	1,721,000	978,000	3,247,000
Ex-Cell-O Corp.	1,013,000	5,551,000	965,000	8,913,000
General Electric	24,794,000	74,000,000	20,771,000	88,800,000
General Motors	89,773,000	127,200,000	82,770,000	139,888,000
General Tire & Rubber	1,212,000	3,300,000	1,210,000	3,300,000
Gillette Safety Razor	1,824,000	5,628,000	1,821,000	4,890,000
Hercules Powder Co.	2,899,000	8,696,000	1,182,000	5,645,000
International Business Machines	5,064,000	14,443,000	4,998,000	14,048,000
International Shoe	2,967,000	4,089,000	3,106,000	4,766,000
Johns-Manville	2,859,000	3,228,000	2,694,000	4,149,000
Jones & Laughlin Steel	4,371,000	6,948,000	3,588,000	5,178,000
Lehigh Valley Coal	228,000	139,000	1,060,000	445,000
Libby-Owens-Ford Glass	3,426,000	2,281,000	3,529,000	2,550,000
Long-Bell Lumber	1,148,000	2,160,000	1,038,000	1,695,000
Lynch Corp.	151,000	224,000	187,000	314,000
Mathiesen Alkali Works	632,000	750,000	578,000	630,000
MacAndrews & Forbes	315,000	387,000	326,000	385,000
National Distillers Prod.	5,501,000	14,036,000	5,071,000	12,218,000
National Gypsum	520,000	665,000	495,000	420,000
Nekoosa-Edwards Paper	251,000	347,000	327,000	444,000
North American Rayon	834,000	1,218,000	789,000	1,161,000
Norwich Pharmical	343,000	633,000	345,000	577,000
Pacific Mills	1,070,000	4,860,000	989,000	5,979,000
Parmalee Transportation	577,000	1,217,000	803,000	1,609,000
Penick & Ford	560,000	1,409,000	530,000	805,000
Republic Steel	6,356,000	21,725,000	4,275,000	16,950,000
Shell Union Oil	16,957,000	19,187,000	14,507,000	22,906,000
Standard Brands	4,940,000	10,457,000	4,155,000	6,816,000
Superheater Co.	530,000	948,000	1,043,000	2,136,000
Superior Steel	160,000	858,000	202,000	1,303,000
Sutherland Paper	277,000	547,000	339,000	690,000
Transue & Williams	177,000	835,000	211,000	1,100,000
Underwood Corp.	964,000	664,000	956,000	2,987,000
Union Carbide & Carbon	19,520,000	51,917,000	18,132,000	48,286,000
United Biscuit	719,000	2,886,000	579,000	2,235,000
United Cigar-Whelan Stores	648,000	557,000	509,000	515,000
United Drug	940,000	3,124,000	1,034,000	4,195,000
United States Steel	32,153,000	30,500,000	32,383,000	49,000,000
Westinghouse Air Brake	2,284,000	7,140,000	2,641,000	8,818,000

This announcement is not an offer to sell or a solicitation of an offer to buy these securities. The offering is made only by the Prospectus.

$45,000,000

Southern Bell Telephone and Telegraph Company

Forty Year 2¾% Debentures

Dated August 1, 1945 — Due August 1, 1985

Price 101⅛% and accrued interest

The Prospectus may be obtained in any State in which this announcement is circulated from only such of the undersigned and other dealers as may lawfully offer these securities in such State.

HALSEY, STUART & CO. INC.

BEAR, STEARNS & CO. — BLAIR & CO., INC. — OTIS & CO. (INCORPORATED)

PHELPS, FENN & CO. — E. H. ROLLINS & SONS INCORPORATED — L. F. ROTHSCHILD & CO.

SHIELDS & COMPANY — WERTHEIM & CO. — W. C. LANGLEY & CO.

CENTRAL REPUBLIC COMPANY (INCORPORATED) — BURR & COMPANY, INC.

A. C. ALLYN AND COMPANY INCORPORATED — H. M. BYLLESBY AND COMPANY INCORPORATED

COFFIN & BURR INCORPORATED — DICK & MERLE-SMITH — HALLGARTEN & CO.

TUCKER, ANTHONY & CO. — WILLIAM BLAIR & COMPANY — PUTNAM & CO.

July 31, 1945.

IT'S AN
OASIS
Progressive leadership, for over 20 years, in the electric water cooler industry means satisfaction for the users of OASIS Electric Water Coolers. Satisfaction too with cool refreshment, efficient low cost operation and trim ruggedness. An OASIS is an especially satisfactory way to quench thirst. The OASIS Electric Water Cooler, engineered for carefree 24-hour service, is designed and built by EBCO.
THE EBCO MFG. COMPANY
401 W. Town St. Columbus 8, Ohio

funded debt. It didn't wait to b flooded with war-earnings before sta ing that important job. Its total de was cut almost $4,000,000 to $21,54 000 between 1916 and 1926, w sliced another $5,000,000 in the ne decade, and was down to $13,851,0 by the end of 1944.

Fixed charges were cut even mo sharply in the same period. At the 1944 level of $568,000, they were 54 less than 1916, 42% under 1929, an 30% under 1939.

In 1943, the road, to pay other ma turing debt, sold $4,000,000 4% bond to the Reconstruction Finance Corp This issue and virtually all the Aroo took's remaining fixed debt, $16,900 000 of additional 4%, all come due i July 1951.

• **As the Street Sees It**—Wall Street however, doesn't appear worried abou these heavy maturities six years hence Instead, it is paying more attention t the fact that, with fixed charges at the present rate, the road would have com pletely covered its interest and preferre stock dividend requirements in 194 its post-1929 earnings nadir, and that i serves an area which faces no postwar re conversion problems.

The Street also has liked the way th road has reduced to $1.25 a share the heavy preferred dividend arrears. As a result, it has become sufficiently satis fied with the aspect of things to bid up Aroostook's preferred shares to a recen price of almost $80, compared with the $19 they commanded in 1941. Like wise, the Street has shown a willingnes to pay 98% of par for the same 4% bonds that were 43% of par four years ago, and more than $20 for the road's common stock, on which no dividend has been paid for almost six years.

• **No Public Predictions**—Bangor & Aroostook's management, headed by Bangor-born-and-bred Wingate Franklin Cram, an employee of the road since 1901 and its president since 1936, is making no public predictions now about the road.

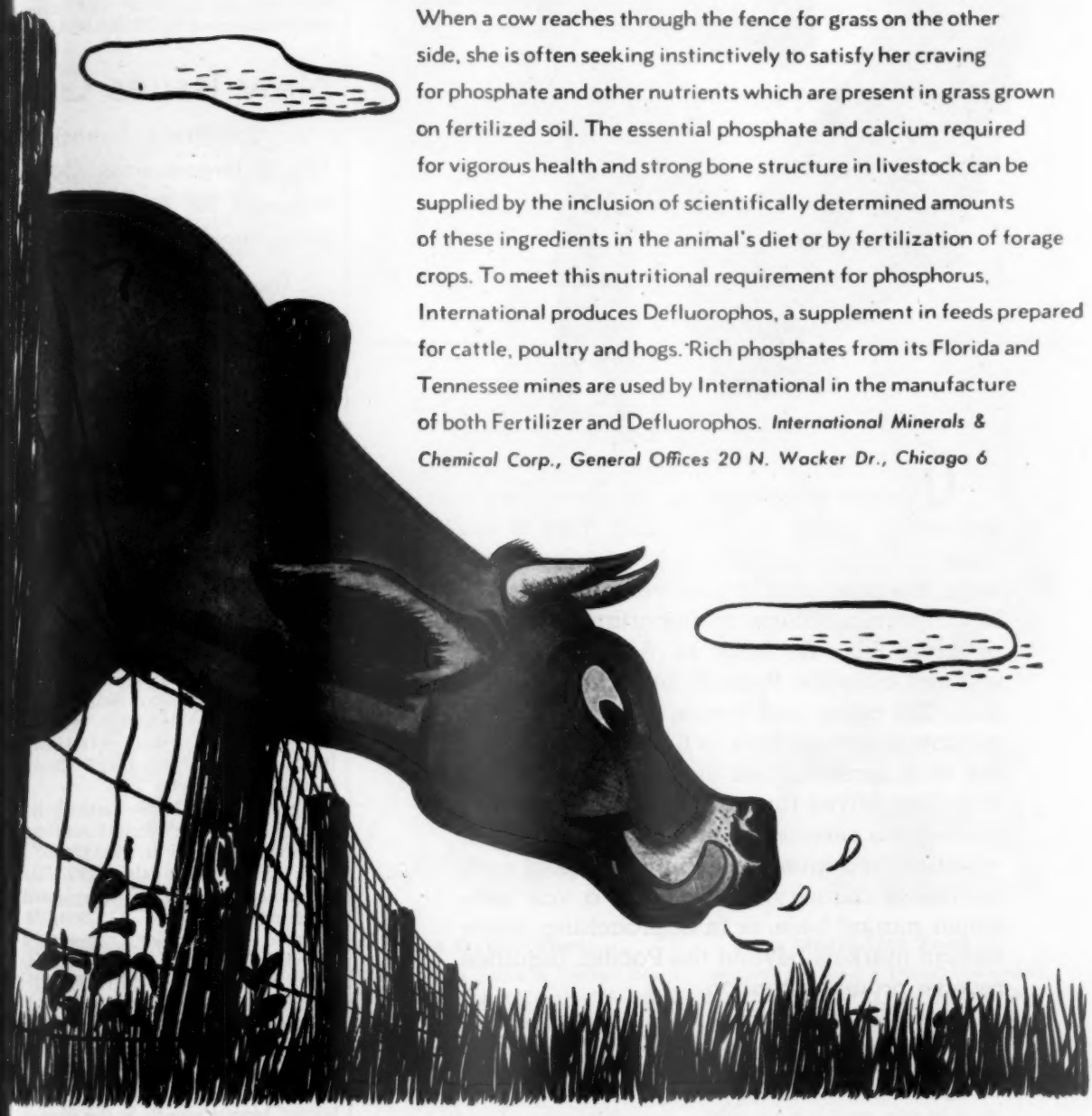
However, there are no signs of pessi mism at the system's headquarters in Bangor. Incidentally, despite its promi ence in title and operations, Bangor is only reached by the Aroostook by vir tue of trackage rights granted it by the Maine Central.

ATLAS IN MOTORS

L. Boyd Hatch and Oswald L. John ston, senior officials of Floyd B. Od lum's Atlas Corp., have hit the head lines lately because of their personal in terest in the new joint Henry J. Kaiser-Graham-Paige Motors Corp. automobile venture. Contrary to published state ments (BW—Aug.4'45,p26) Atlas itself,

The Grass is Greener

ON THE OTHER SIDE OF THE FENCE

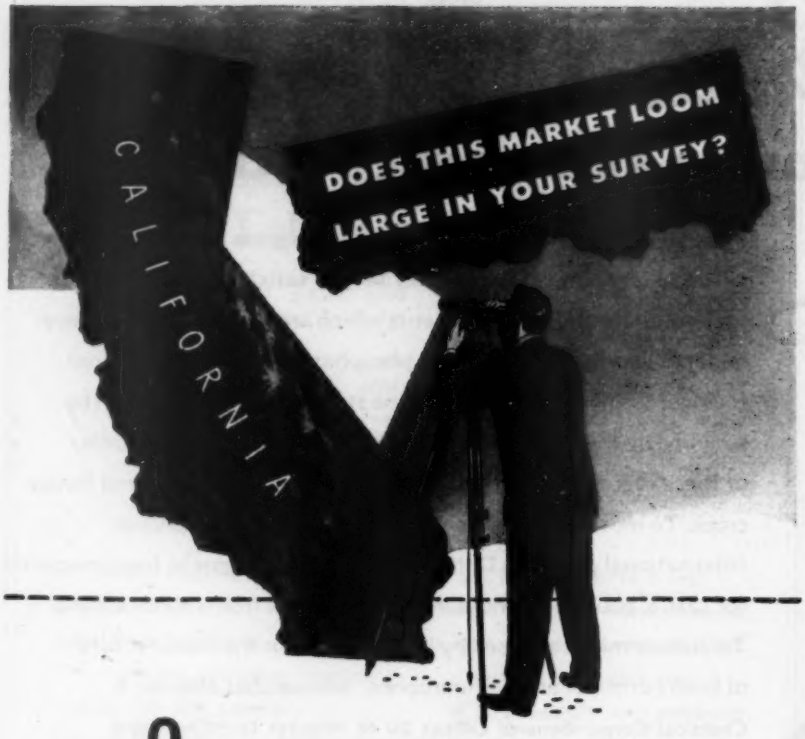


When a cow reaches through the fence for grass on the other side, she is often seeking instinctively to satisfy her craving for phosphate and other nutrients which are present in grass grown on fertilized soil. The essential phosphate and calcium required for vigorous health and strong bone structure in livestock can be supplied by the inclusion of scientifically determined amounts of these ingredients in the animal's diet or by fertilization of forage crops. To meet this nutritional requirement for phosphorus, International produces Defluorophos, a supplement in feeds prepared for cattle, poultry and hogs. Rich phosphates from its Florida and Tennessee mines are used by International in the manufacture of both Fertilizer and Defluorophos. *International Minerals & Chemical Corp., General Offices 20 N. Wacker Dr., Chicago 6*

International MINERALS CHEMICALS

MINERALS and CHEMICALS

INTERNATIONAL MINERALS AND CHEMICALS serve you in many ways through industry and agriculture: **POTASH AND PHOSPHATE** for industrial chemicals and fertilizers. **HIGH-ANALYSIS FERTILIZERS** for larger yields of quality crops. **CHEMICALS: Mono Sodium Glutamate, Glutamic Acid, Potassium Chlorate, Silica Gel, Epsom Salt, Defluorinated Phosphate, Sodium Silico-Fluoride, Sulphuric Acid and others.**



One-half the people in the eleven western states reside in California. This is the West's greatest market. If, in your own surveys, the present and post-war opportunities in California occupy an important place, remember this: At Bank of America, which serves California through branches in more than 300 cities and towns, planning for tomorrow is second only to the task of meeting the vital banking and financial needs of today. Executives throughout the country are finding the services of this bank invaluable, whether their interests lie in the field of agriculture or industry, in reaching a vast consumer market here, or in approaching future foreign markets beyond the Pacific. Inquiries receive prompt attention.

RESOURCES OVER 4½ BILLION DOLLARS

California's statewide bank

Bank of America
NATIONAL TRUST AND SAVINGS ASSOCIATION

Member Federal Deposit Insurance Corporation
Member Federal Reserve System

Main Offices in the two reserve cities of California... San Francisco - Los Angeles

however, according to its June 30, 194 interim report, has confined its ow investments in that field to such othe independents as Willys-Overland an Hudson Motors.

Atlas bought 100,000 shares of Wi lys-Overland and 40,000 shares of Hud son in the first half of 1945, but thes purchases represented only a small par of its activity. Its investment buying i the period totaled $10,708,000.

New Issues Gain

Corporate financing in July is largest since October. Prospects for August are dull but autumn pickup is likely.

Following the June drought in co porate financing because of the Seventh War Loan drive, July proved the busies month for Wall Street's underwriting group since last October's $750,000,00 biggest bond financing month sinc May, 1930.

• **Bell Issues Lead**—Bond offerings alon last month approximated $530,000,000 Utility industry refunding operations including the record-breaking $175,000,000 issue auctioned by American Telephone & Telegraph Co. (BW-Jul.28'45,p86) and a similar $45,000,000 offering of Southern Bell Telephone & Telegraph, led the parade with some $267,000,000 of that total.

Industrial bond offerings, bolstered by a $75,000,000 Bethlehem Steel Corp issue bearing a 2¾% coupon, one of the lowest rates in the steel industry in years, came to around $160,000,000. Rail issues also totaled well above the $100,000,000 level.

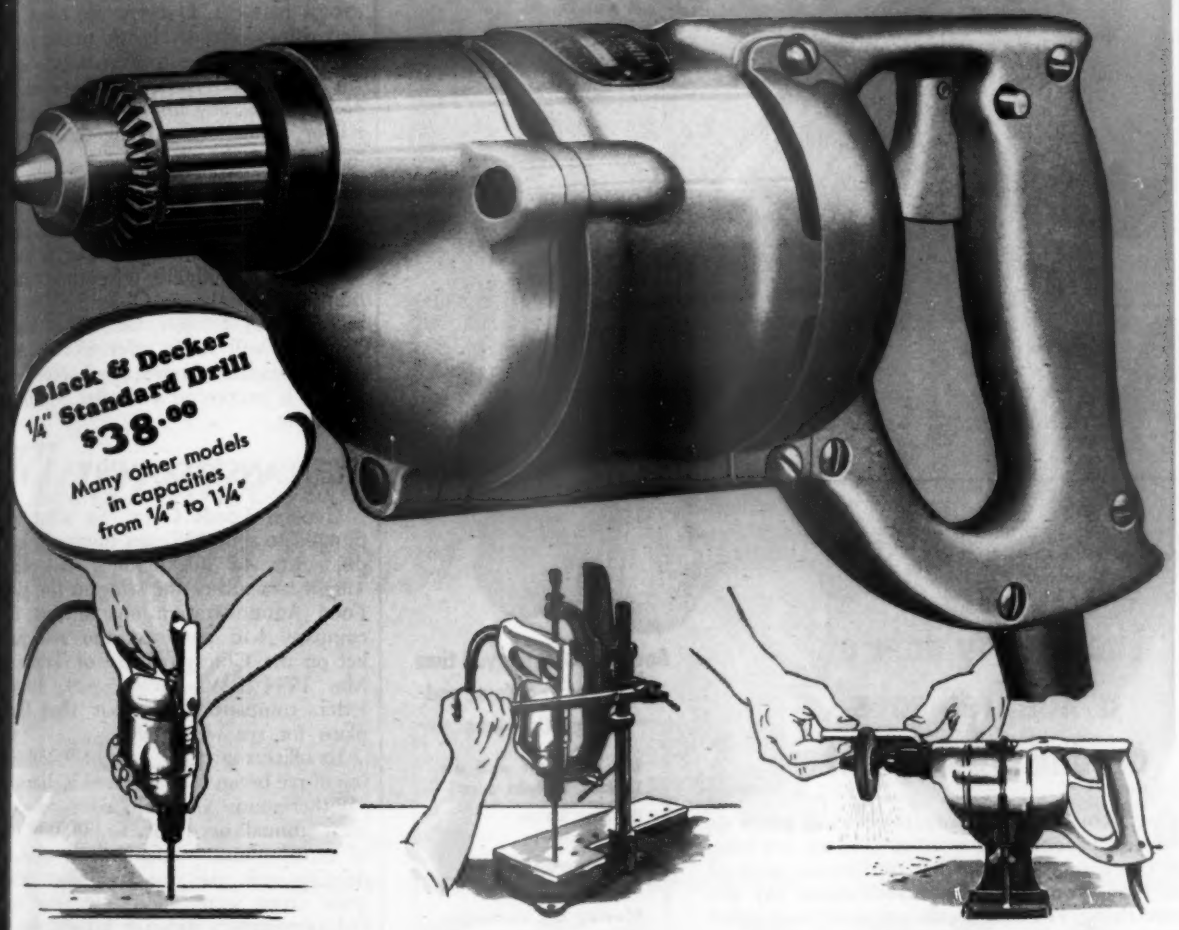
• **Biggest Since 1929**—Particularly en couraging to Wall Streeters was the good reception accorded to the sizable new stock issues. These totaled $259,320,000 including $228,206,000 represented by preferred issues and $31,000,000 of common stock flotations, compared with only $22,000,000 of equity financing in July, 1944, and but $13,000,000 two years before.

Even though a great part of the new stock financing represented refunding operations, which was not the case earlier, this July was the underwriting houses' biggest month in the stock field since August, 1929.

Overbidding by syndicates for various issues last month caused considerable stickiness at times in the new issue market (BW—Jul.21'45,p69) and for three large issues sold weeks ago bids in the over-the-counter market are still 1½ to 2 points below their original offering price. The bids for two of the three

One of the Most Useful of all Electric Tools

-from the world's most complete line



As a Portable Tool . . .

The ¼" Standard Drill drives twist drills up to ¼", wood augers up to ½", hole saws for cutting clean, round holes up to 2½" diameter in any material a hacksaw will cut. Driving countersinks is just one more of the many other uses for this powerful portable tool.

As a Drill Press . . .

Mounted in a Black & Decker Bench Drill Stand ($14.00), the ¼" Standard Drill quickly becomes a powerful drill press, with plenty of leverage to put on the pressure where needed, or for a slow, smooth feed on precision work. Same tool does both bench and portable work.

As a Multi-Use Tool . . .

Mounted in a Black & Decker Horizontal Drill Stand ($2.75), the ¼" Standard Drill does stationary drilling or reaming, and drives wheels for light grinding, wire brushing and buffing. Ball-bearings on all spindles make the ¼" Standard ideal for this latter type of work.

For Complete Catalog of more than 100 different Black & Decker Electric Tools and over 1,000 attachments, write to: The Black & Decker Mfg. Co., Dept. 608, Towson 4, Maryland. For help on any tooling problem, see your Black & Decker Distributor.

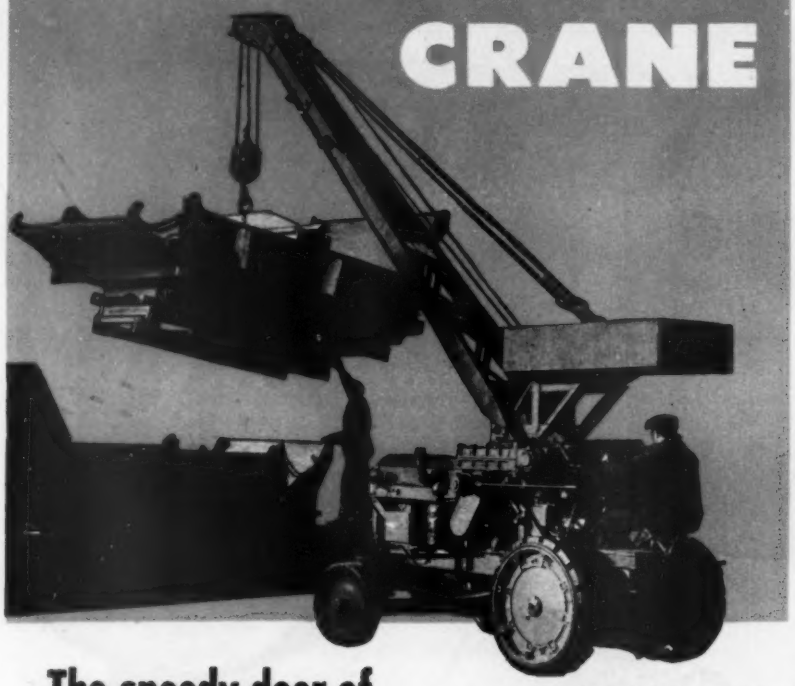
LEADING DISTRIBUTORS EVERYWHERE SELL

Black & Decker

PORTABLE ELECTRIC **TOOLS**

Cut Your Load-Handling Costs with this versatile always-on-the-spot

ROUSTABOUT CRANE



The speedy doer of a hundred jobs around your plant

"Our Roustabout Crane is the last piece of equipment we'd want to give up. It's busy all the time." That's what one owner says of his Roustabout, and hundreds more say the same thing. For outside the range of your other material handlers this powerful crane, always where you want it when you want it, moves, loads, stacks heavy stuff to 7½ tons quickly, at low cost, meeting emergencies, saving manpower. Designed and built for smooth easy operation and years of overwork, Roustabout's boom swings on a heavy ball-bearing turntable, its gears run in oil. . . . It pays you to write now for the whole story of this crane.

Roustabout saves you time and money on these and many other jobs

- Big stuff off and on trucks, freight cars
- Moving large machines
- Handling bales, boxes, drums
- Moving big castings, motors, railroad and marine gear
- Loading air transport planes
- Handling tanks, pipe, structural steel
- Installing heavy valves and fittings

ARMY NAVY E

THE HUGHES-KEENAN COMPANY
600 Newman Street, Mansfield, Ohio

ROUSTABOUT CRANE

Roustabout Cranes
By Hughes-Keenan
Load-Handling Specialists Since 1904

are actually under the price paid t issuers for the bonds.

• **Cold Shoulder**—There are signs th a number of the big insurance compa buyers still feel that offering prices most new issues remain a bit too ne Even though such sales were succes fully concluded, Wall Street didn overlook the "not at home" sign poste by the majority of the large insuranc companies when the recent two tel phone issues were offered.

All signs point to a pretty dull Augus except in spots, in corporate bond u derwritings. Relatively few utility issu have been going into registration wi the Securities & Exchange Commissio Neither does any important amount rail or industrial financing seem imm nent.

• **Autumn Plans**—The railroads, ho ever, apparently expect the stickine to vanish from the new issues marke by this fall. Southern Pacific is pla ning a $143,000,000 refunding oper tion, Chesapeake & Ohio may try refund $64,000,000 of 3½s. Gre Northern will likely offer $75,000,0 new refunding bonds, and Northe Pacific is proposing a similar $75,000 000 issue.

RYE PLANS GO AWRY

General Foods Corp., in what w phrased to sound like an unusually ca did letter to stockholders, last wee sought to poultice the sting in the W Food Administration charge that th company had cornered the rye ma ket on the Chicago Board of Trade May, 1944 (BW—Jun.9'45,p24). In th letter, company officers say that the plans for rye went awry.

Its officers say G.F. bought 9,250,00 bu. of rye because they feared a shortag of other grains—especially corn—to me their annual need for 16,000,000 b of cereal grains. They hoped also t develop new uses for rye. But othe grain crops were good last year an G.F. researchers did not hit the bull eye.

The statement adds: "We didn make any money. After paying storag and handling charges, we even lo some." The corporation says that it holdings at the most were only 29% of the "supply in sight" and 44% o the amount of rye in commercial stor age—"far from a corner" and far fro the proportion WFA says that it held

Meanwhile, Charles W. Metcalf, ex ecutive vice-president and a director o General Foods and a member of th Chicago Board of Trade, who wa named individually along with other in the WFA complaint, has resigned from his offices with the food corpora tion.

Lights the way to stepped-up production..sales.. office efficiency!

IN OFFICES!

IN PLANTS!

ONew Position Indicators Speed Maintenance!

Fluorescent at its Finest!

IN STORES!

WINDOW LIGHTING!

SHOWCASE LIGHTING!

Need light bulbs? Sylvania bulbs, too, mean "Best Light in Sight!"

SYLVANIA ELECTRIC

Makers of the World-Famous Sylvania Radio Tubes

1946, Sylvania Electric Products Inc.

PRODUCTION

Flooring Drives Away Roaches

Copper powder is used in magnesium oxychloride cement to provide surface that also repels bacteria and mold. Product finds a place in war industry because it drains off static electricity.

Incorporating finely divided copper powder in magnesium oxychloride cement used as a floor covering may reduce the loss of millions of dollars caused annually in the United States by cockroaches.

The cement, called "Hubbellite," developed by Dean S. Hubbell, a senior fellow at the Mellon Institute of Industrial Research, Pittsburgh, can be applied, three-sixteenths to one-quarter of an inch in thickness, on any floor surface, including wood.

• **Kills Bacteria, Too**—After a three-week "setting" stage, the cement has been found not only to be an effective repellent to cockroaches, one which literally gives them a "hot-foot," but also to have a lethal effect upon bacteria, yeast, and molds.

Discovery of the cement's repellency to roaches was, in fact, incidental to Hubbell's quest for a floor covering for restaurants, hotel kitchens, dairies, and food establishments which would kill bacteria and mold. Tried out in the kitchen of a Cleveland hotel, the Hubbellite cement fulfilled all expectations. Days later, the hotel kitchen employees happily noted the departure of roaches against which they had warred unsuccessfully for years.

• **Tests Confirm Fact**—Frank O. Hazard of Wilmington College then conducted exhaustive tests of Hubbellite's effect on roaches. His findings confirmed the experience of the hotel kitchen in Cleveland—that gray-colored magnesium oxychloride cement, impregnated with copper, sent all types of cockroaches scampering; that even when roaches had been starved for a long period, the "hot-foot" they experienced more than offset their greediness.

Hazard says he doesn't know whether the hydrated copper chloride which the cement contains after the setting process affects the roach through its feelers or whether it is the taste that is repellent. (A roach is constantly licking its feelers.) Another theory is that proximity of the roach's moist belly to the Hubbellite produces acute indigestion.

• **To a Minimum**—The studies made with the roach repellent flooring do not prove that such a flooring will prevent roach infestation, since it is possible for the vermin to travel around the walls. Tests do show that such flooring will reduce roaches to a minimum.

Hubbellite is marketed through the H. H. Robertson Co., Pittsburgh, which sells direct to flooring contractors. The product goes to the contractor in steel drums, is finally mixed with water to the consistency of stiff clay.

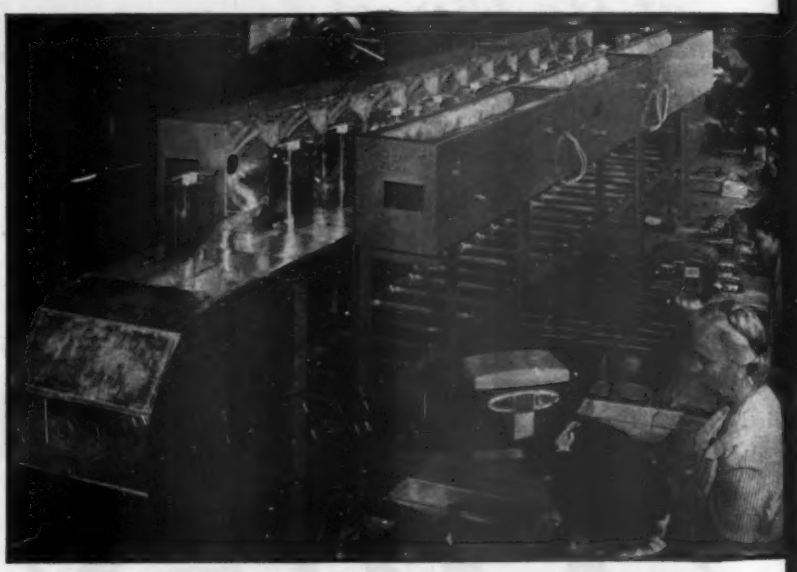
The mixture is applied in much the same manner as ordinary cement. However, its physical characteristics more closely resemble those associated with plastics. Its strength is said to exceed that of portland cement, yet it is quite resilient and can be deformed considerably without cracking. It is extremely adhesive.

• **Easy to Clean**—Aside from its repellent properties, the flooring is easy to clean. Applied as a plastic, it fi nishes a continuous surface with necessity for cutting and fitting arou pipes. No joints are necessary thro the floor and it is usually turned up the walls for a few inches. Thus it tually converts the room into a shall tank.

Hubbellite has been on the restrict list since the government began maki wide use of it in covering floors many plants and factories, because it h the ability to drain away static el tricity and therefore prevent its build to a potential that would cause a spa The flooring's conductivity is such th it drains away static from anything electrical contact with the floor, yet not a good enough conductor to be hazard with underground electrical c cuits.

• **For Hospitals**—Because of this add virtue, a wide use of Hubbellite is fo seen for hospital operating room where a spark of built-up static el tricity in the presence of highly flammable ether gas might cause da age.

Cleveland Graphite Bronze Co. st ulated that Hubbellite be used in loc rooms of its new plant, since mana ment was convinced that the floor would serve as an effective curb agai the spread of athlete's foot, a fung infection.



BELTS OF STEEL FOR PRODUCTION LINES

When war shortages made worn-out rubber and leather production-line belt hard to replace, Blackstone Mfg. Co., Chicago, devised a hard-surfaced bel (above) of sheet steel plates linked together with a clasp. For an average jo a plate measures 12x18 in. When one is damaged, a new plate can be slipp in with only a short shutdown of the line. Lighter than similar belts in us the advantages of being durable, easy to clean and repair seemingly recom mend this "war baby"—already installed at another plant—for postwar us

ousehold Robot

Machine can be used as a thes and dish washer, potato eler, churn, and as ice cream ezer by shifting mechanism.

ll that reconversion talk about wash- machines undershot the mark, it me evident early this week, when Hurley Machine division of Electric schold Utilities announced a super- hing machine with enough attach- nts to warm the heart of the most gadgeteer.

t's Adaptable—Because it can change earance and function at the twist a housewife's wrist, Hurley's new ice is not even called a machine. "The Automatic Line." What's e, the housewife doesn't even have buy it all at once, or even in any ndardized order. It's adaptable, that's t it is.

he basic device with which the sewife begins her collection can be er the clothes washer or the dish

GH SKY SWALLOWS

tween two oversize earphones, a estinghouse Electric employee monstrates a "swallow counter"— w device for finding additional data just how pilots tick when climbing gh. Inside the "Tympanometer's" ones, midget microwave transmit- s note eardrum movements or com- nsatory swallows as the flyer ad- sts himself to thinner air. Outside e test chamber, a recorder-receiver kes a record of the reactions—to be rrelated for further study with data pressure and rate of climb.

washer. It will cost her $130, according to Hurley's tentative plan, whichever she buys first. When she adds the other, it will be $50. She can get the two at once for $180 and save mopping up the kitchen floor after an extra set of deliverymen. Washing clothes and dishes, and other acts of the device, are done by the accessories operating inside an enameled steel cabinet.

• **As a Dish Washer**—Any right-thinking user will unquestionably keep the gadget in the kitchen, because it will be washing dishes for her three times a day, and its ready adaptability will impel her to keep it handy. The dish washing machine has a metal plate for use with pots and pans, a wire basket to accommodate enough dishes to serve six people. Parts are of stainless steel and aluminum.

She puts in 2 qt. of hot water with a little detergent powder to cut the grease, and starts the motor. The mechanism (which on Monday is the extractor for drying clothes without a wringer) starts throwing the dishwater around at 35 m.p.h. This simultaneously reduces to a pulp any food left on the dishes, except, of course, bones and the like. A trickle of hot water continues coming into the tub until the 1½-gal.. capacity is achieved. When Mrs. Public drains out the water, the same rapidly spinning device throws hot air on the dishes and dries them without the intervention of a dishtowel.

• **As a Washing Machine**—To do the family washing, Mrs. P. takes out the basket and racks; no piece of equipment weighs more than 8 lb. She attaches the clothes-washing tub and agitator, equally light, and proceeds just as if this were a simple, prewar, like-you-know-them washing machine.

To the basic machine, Mrs. P. can add a potato peeler attachment which will cost a maximum of $10. This is a small tub coated with abrasive and is attached to the agitator shaft. She puts in a cup or two of water, dumps in the potatoes, and before you can say "carborundum" the abrasive has rubbed their hides into a pulp that flushes down the drain.

• **For Other Purposes**—Strictly in the experimental stage, but considered practically a sure bet in the Hurley development laboratories, are two additional gadgets. These are a butter churn and an ice cream freezer.

Churning cream into butter in the family washing machine is an old-time trick of the rural user—though it has a nasty habit of burning out the motor when the butter really begins to stiffen up. Hurley gets around that one by providing a churn tub small enough to keep the motor load within capacity;

"SIT IN THIS chair, Mr. Brown"

(A True Experience)

"Sit in this chair, Mr. Brown," said the salesman's wife. "The Company awarded it to Jim in a sales contest ten years ago."

Such lasting enthusiasm is the natural result of Merchandise Prize Incentive Plans. In a salesman's mind his award takes on a value that cannot be measured in dollars and cents. It is a lasting, substantial reward for a job well done, and many times its original cost could not buy it back. His wife, too, is proud of him and the company he serves.

When you next consider a Sales Incentive Plan choose the one firm that has the specialized knowledge, experience and organization to guarantee you profitable results. Write for our new catalog today.

CAPPEL, MAC DONALD AND CO.

Merchandise Prize Incentive Plans

CAPPEL BLDG. DAYTON 1, OHIO

PHOTOCOPIES *from* ***BLUEPRINT MACHINES!**

Now you can make any kind of contact photocopy in a normally lighted room:

- Duplicates of letters and manuscripts
- High-contrast litho negatives from pencil originals
- Sharp black and white prints from worn blueprints or yellowed originals
- Reflex negatives from opaque or two-sided originals
- Transparentized Vellum positive reproductions

★ If you have no blueprint machine you can obtain one at surprisingly low cost. Takes any copy up to 42" wide and of any length.

For full information write for Bulletin BH

PEERLESS PHOTO-ARC REPRODUCTION PAPERS

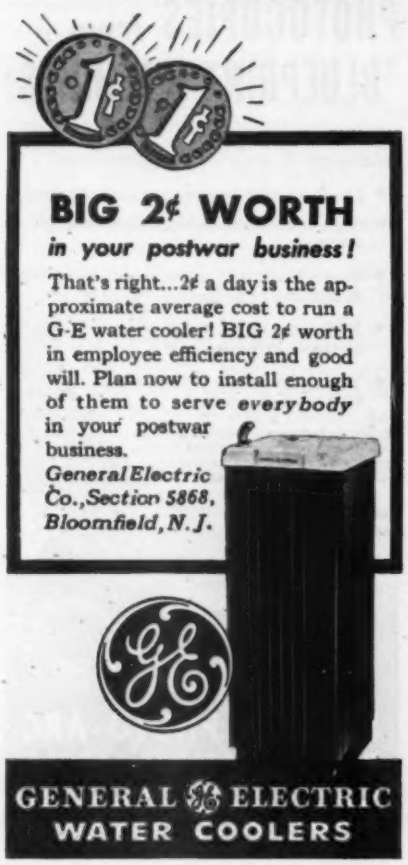
Manufactured only by

PEERLESS PHOTO PRODUCTS, INC.

50 Broadway, New York 4, N. Y.

SAVES..
"Saves $600 a year in shipping room," say users of Marsh Stencil Machines, Brushes, Inks! Three sizes to meet Gov't Spec., 1", 3/4", 1/2". For sample stencil, Shippers' handbook prices, pin this to business letterhead, with your name.
MARSH STENCIL MACHINE COMPANY
58 Marsh Building
Bellaville, Ill., U.S.A.
MARSH STENCIL MACHINE
MARSH
STENCIL MARKING

Offering
Manufacturing Facilities
for Aviation Products
LAVELLE war-time specialized production is an indication of what the aviation industry can expect from us in the post-war commercial expansion period, which will call for quality and low manufacturing cost.
We invite confidential inquiries for the development and production of aviation accessories and parts.
Lavelle
AIRCRAFT CORPORATION
NEWTOWN, PENNA.
(Bucks County)


1¢ 1¢
BIG 2¢ WORTH
in your postwar business!
That's right...2¢ a day is the approximate average cost to run a G-E water cooler! BIG 2¢ worth in employee efficiency and good will. Plan now to install enough of them to serve everybody in your postwar business.
General Electric Co., Section 5868, Bloomfield, N. J.
GE
GENERAL ELECTRIC
WATER COOLERS

ice cream can be made on the same device with an extra jacket for the salt and ice.

• **Not Yet on Market**—The new device has not yet been offered for sale, but Hurley executives say they could have sold dozens off the laboratory floor because everyone who has seen the experimental model has immediately wanted to buy it.

Total weight is 200 lb.; space occupied is 2 ft. sq. and 3 ft. high. By present plans, the machine will be ready for delivery to dealers and consumers not later than Jan. 1, 1946.

By Westinghouse:

Postwar expansion plans, with emphasis on home appliances, are geared to sales goal some 50% above prewar level.

Westinghouse Electric Corp. this week announced (1) that it had acquired the 85-year-old B. F. Sturtevant Co., Boston, manufacturer of air handling equipment, and (2) that it was ready to launch a new system of television and FM (frequency modulation) broadcasting from planes flying 30,000 feet above the earth (page 94).

The twin disclosure turned the spotlight on a program of expansion which the 59-year-old electrical manufacturing firm has been unfolding piecemeal over a matter of months—all of it geared to a postwar sales goal of $360,000,000 to $400,000,000, some 50% above its prewar level.

• **Accent on Appliances**—Biggest push will be in consumer goods—radios, lamps, air conditioning, but primarily in appliances, the field in which Westinghouse expects to realize an increase of 138% over 1941 sales levels.

To boost production of its old-line appliances (refrigerators, irons, electric ranges, dishwashers, toasters, coffee makers, waffle irons, electric roasters), and to turn out new items (home freezers, garbage disposers, clothes dryers, food mixers, electric blankets), Westinghouse has embarked on a $11,500,000 expansion of plants at Mansfield, Ohio, and East Springfield, Mass.

• **Home Radios Again**—Westinghouse will also be back in the home radio field after a 17-year absence. Chief reasons for its re-entry are: The war has expanded its radio equipment output 51-fold, and its analysts see a market for 60,000,000 home radio sets. Its home radio division at Sunbury, Pa., will make AM (amplitude modulation—the type now generally in use), FM, and television receivers. Initial production will be on six basic models, from a $25 tube midget to a $169.50 deluxe ra phonograph combination.

Westinghouse hopes to cut a m larger figure in the lamp field as a re of the Aug. 1 cancellation of its rest tive patent license agreement with G which specified prices and product quotas.

• **New Arrangement**—The new non clusive license arrangement, it is hop may satisfy the Justice Dept. in most the issues raised in the long-stand antitrust suit against the two firms a five other licensees of G.E. (BW—F 1'41,p23).

Besides enlarging its lamp factor Westinghouse has bought the la business of the Ken-Rad Tube & La Corp., Owensboro, Ky., giving it add facilities for making both lamps a radio tubes (BW—May12'45,p31). addition to incandescent and fluoresc bulbs, Westinghouse proposes to m ket sun and heat lamps, also its n bacteria-killing Sterilamp for use in f tories, offices, schools, hospitals, a even homes.

• **Air Conditioning**—Acquisition Sturtevant will give Westinghouse boost in the air-conditioning and lated fields. The new subsidiary, lon leader in the manufacture of air han ling equipment, will be closely link with the parent firm's recently realign air-conditioning division, headquart for which will be moved from Jer City to Boston.

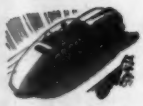
Beyond this, Westinghouse has hi hopes for its Preciptron, an electro air cleaner, which will be marketed home use. As air passes through t device, dirt particles, tobacco smo and dust are ionized under 12,500 v of electric current, then collected plates having opposite polarity. The sulting accumulation is flushed do the drain.

Commercial exploitation of the P ciptron, fostered by the war, will co tinue.

• **Electric Home Heating**—Another n field which Westinghouse appe ready to invade—although formal a nouncement has not yet been made— that of electric home heating. It is u derstood that the company has studi the Pacific Coast market, where che power would make this type of heati feasible, and that a home heating s tion sales manager has been named.

A "bug bomb," utilizing DDT a aerosol as insecticides, rounds out t current list of consumer products which the firm is planning to l emphasis.

• **War-Projected Expansions**—In the i dustrial and commercial field, Westin house has plans almost as ambitiou The war has projected it into new lin



Just as your car responds to "high test" gasoline . . . so will you respond to the better air conditioning that is in store for you.

All the accumulated experience of building equipment for air conditioning aircraft factories and hundreds of other types of war product plants . . . will help your favorite store, theatre, restaurant — your office or factory — to give you better air, at low cost to the owners.

You'll be surprised at what *modern* air conditioning — Worthington Air Conditioning — really feels like. Worthington . . . associated with air conditioning and refrigeration for nearly 50 years . . . has participated during the war years in many significant developments which promise more comfort and greater efficiency.

Making so many of the "vitals" of air conditioning and refrigeration systems — equipment which is interdependent and should be carefully integrated — Worthington is in the ideal position to recommend the proper equipment for each case. Compressors, condensers, engines, turbines, pumps, valves, fittings are all Worthington-made. Putting them together right is the reason why *there's more worth in Worthington.*

Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, N. J. Specialists in air conditioning and refrigeration machinery for more than 50 years.

A 5-9

Needle Bearings Help Operate Cowl Flaps of B-29 Superfortress

Maximum performance for minimum weight and size is the first requirement for each component part of a modern airplane. Hence it's no surprise that some critically-important moving parts of the Lear, Inc. mechanism for operating cowl flaps on the mighty Boeing B-29 Superfortress, for instance, turn on light weight, compact Torrington Needle Bearings. Their full complement of small rollers packs high capacity into minimum space... provides efficient, *reliable* anti-friction performance under all operational conditions.

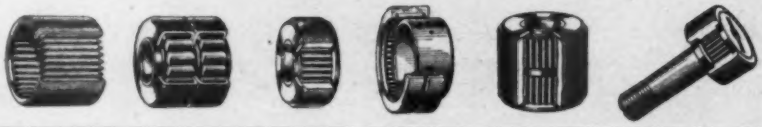
Can you visualize such Torrington Needle Bearing advantages in terms of *your* product...aircraft or automotive equipment...machine or portable tools...farm, textile, household or other equipment that you want to operate with maximum anti-friction ease, combined with minimum size, weight—and cost? Our Catalog 32, showing the wide range of types, sizes and applications, will help you. Why not write us for your copy today?

THE TORRINGTON COMPANY

Established 1866 • TORRINGTON, CONN. • SOUTH BEND 21, IND.

New York Boston Philadelphia Detroit Cleveland Seattle
San Francisco Chicago Los Angeles Toronto London, England

TORRINGTON NEEDLE BEARINGS



or into expansions on which it hopes capitalize. Besides its announced $ 000,000 expansion for building airp jet propulsion engines (BW—Dec.19 p9), the firm will develop gas turb propulsion for ships, for the power dustry, and for geared airplane engi

Electric auxiliaries for large airc (generators, dynamotors for radio po supply) provide another new peacet field. Perceiving postwar applicati for radar, the company will stay in war-developed realm.

• **Stabilizer for Trains**—In transpo tion, Westinghouse has plans for a n type stabilizer for trains, and has wor out improved commercial relations w Baldwin Locomotive Works to incre their joint share of the diesel locom tive market.

New commercial applications electronic heating in industry are be developed by its recently established dustrial electronics division, while elevator division, preparing for m sales, early this year absorbed the lantic Elevator Co. of Philadelphia.

New products, expanded use of tablished lines (its small motors d sion alone is slated to be twice as la as before the war), and acquisitions firms such as Sturtevant and Atlan Elevator all give evidence of even grea decentralization of the compan operations.

• **Away From Big Plant?**—In this co nection it is known that Westinghous big East Pittsburgh works, employ some 25,000 persons, is considered unwieldy for most efficient operati Company officials aren't ready to what may be done to change this, bu is considered significant that expansi announced thus far have been at oth locations.

In distribution, too, Westinghouse preparing for greater activity. Its su sidiary, Westinghouse Electric Supp Co., has purchased six independe distributors since the first of the ye plans to open a score or more additio branch houses in areas where jobb outlets are desired.

• **Emphasis on Coverage**—Wesco's p icy as a secondary distributor of We inghouse products is not to control such outlets, but merely to take over establish branch houses in lucrative m kets to assure adequate coverage.

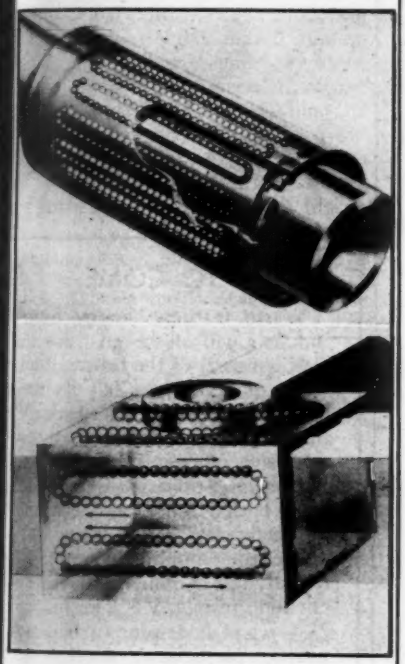
Many purchasers, notably those se ing heavier equipment (large generato radio transmitting facilities are exa ples), will continue to deal directly wi the Westinghouse divisions which a the producers. But with appliance slated to represent a much larger part Westinghouse's sales dollar, Wes wants to be in position to provide d tribution wherever independent who salers might prove inadequate.

NEW PRODUCTS

Ball Bushing

The new Ball Bushing, developed by Thomson Industries, Inc. (until recently the Zimmer-Thomson Corp.), 29-05 Review Ave., Long Island City 1, N.Y., is not to be confused with a ball bearing. Both mechanical components utilize the rolling of small balls in the minimizing of friction, but there the similarity ends. The bushing is expected to do for reciprocating, push-pull shafts what the bearing has long done for rotating shafts.

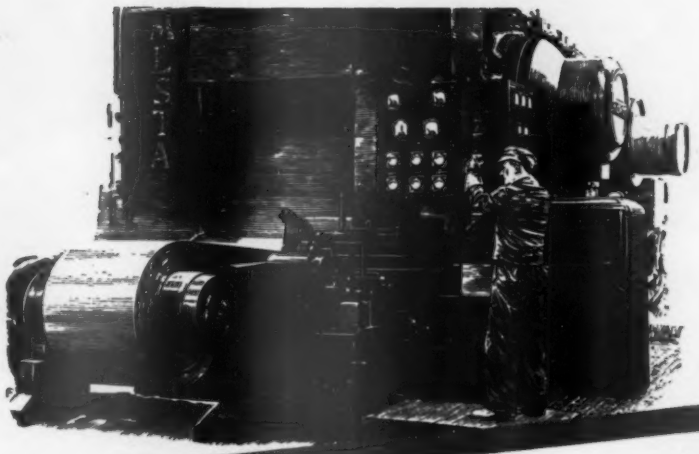
Reciprocating members may be round (as in certain machine controls), square or oblong (as in engine rods), or variations of the shapes such as oval, hexagon, octagon, and so on in sizes from ¼-in. cross-section on up. Whatever their size or shape, each matching bushing has a plurality of ball circuits to carry a given push-pull load. Actually, the balls on one side of each circuit carry the load because there is clearance in the other side of the circuit to permit



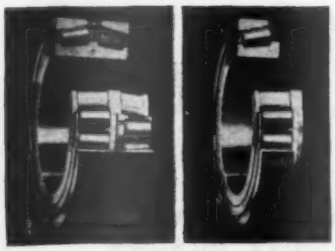
the balls to roll around and return to work. Since a phenomenally free movement is said to be provided by the bushing, sliding members and their power sources may be lighter than formerly.

Shock-Resistant Indicators

Back in the days when dial indicators for checking precision measurements were used almost exclusively by



FOR FASTER COLD MILL REELS
...AND OTHER HEAVY-DUTY EQUIPMENT



The reel of the cold strip steel mill you see above is one of the world's fastest. It "coils" 3200 feet of steel strip per minute...and at required tension for final quality control. That means extreme radial and thrust loads on the reel...loads handled efficiently by one double-row and two single-row steep angle Torrington Tapered Roller Bearings.

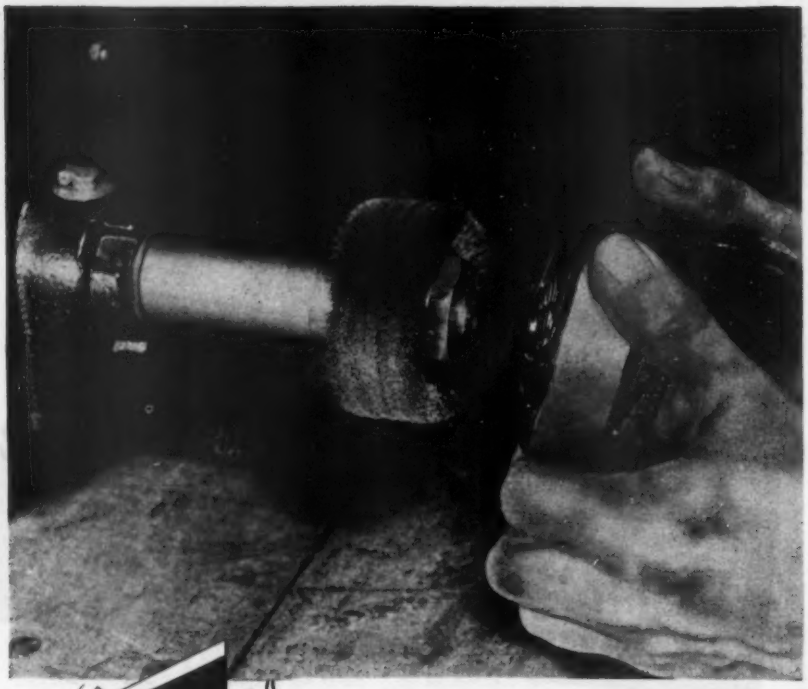
On steel and paper mill machinery...on oil field and hoisting equipment . . . on machine tools and other heavy-duty applications...bearings designed and built by Torrington's Bantam Bearings Division provide efficient, economical, trouble-free *anti-friction* operation that makes for improved products and reduced costs.

In the competitive markets ahead, you should assure yourself that kind of performance from *your* heavy-duty equipment. Our engineers will gladly help you to incorporate Torrington Bearing advantages in your designs.

THE TORRINGTON COMPANY · BANTAM BEARINGS DIVISION
SOUTH BEND 21, INDIANA

TORRINGTON BEARINGS

STRAIGHT ROLLER · TAPERED ROLLER
NEEDLE · BALL



Good
IN A TIGHT SPOT

Osborn Ringlock Sections move right in where there's "NO ROOM"

There are thousands of little, remote, hard-to-get-at surfaces on hundreds of diversified products which MUST be cleaned of scale, burrs, rust and corrosion in order to make the finished product perform perfectly.

There will be thousands more when *new products* come on the market.

Pipe tubing, recesses in machined and fabricated parts—tough, hard-to-get-at internal areas—are *exactly* what Osborn *Ringlock Sections* are designed to get at. To improve the product's performance —and saleability!

This important power brushing tool has proved its mettle in wartime, speeding production and bettering product. It's just one of the big family of Osborn brushes which can help you make a *better*, better-selling product. And a less costly one to make!

Now is the time to have an Osborn field engineer make a study of your operation or plans. He will submit specific recommendations with no obligation to you.

THE OSBORN MANUFACTURING COMPANY

5401 Hamilton Avenue *Cleveland, Ohio*

Osborn Brushes

WORLD'S LARGEST MANUFACTURER OF BRUSHES FOR INDUSTRY

trained mechanics, few of the compa instruments were ever subjected rough handling. Now that warti conditions have made it necessary put inspection into virtually untrain and frequently careless hands, the F eral Products Corp., 1144 Eddy S Providence 1, R. I., is adding a ne Cushioned Movement to many mod of its dial indicators without changi their size or appearance.

The movement consists essentia of an intermediate gear so provid with a spring that when a shock bump occurs during application to wo it is free to rotate and resist the sho with its own inertia. As soon as it h absorbed the shock, the rest of the ge train comes into play as usual, bringi the indicating hand on the dial to t correct measurement.

Panel Heater

Newest gas-fired heater for the hom office, or store is the Panelray, man factured by the Day & Night Mfg. C Monrovia, Calif., for installation rig in any wall of 4-in. or greater thickne It comes in three capacities (10,0 B.t.u., 20,000 B.t.u., and 30,000 B.t. and three colors (white, ivory, and da walnut baked enamel). All are of t same 4-in. thickness and 59⅛-in. heig but in three widths of 13 1/16 in., 17 11/ in., and 21 1/16 in. Gas flames and fum are confined in vertical metal tubes special design which are said to direct i visible, infra-red heat rays at bo height throughout a room's living zon

THINGS TO COME

Waste feathers, hoofs, horns, and hair will all be grist for the plastic molder of the future, if one group of researchers has its way. Reduced to a fine, dry powder by an undisclosed but reportedly inexpensive process, the cheap keratin-bearing material is expected to act both as a filler and as a reinforcer for less cheap phenol-formaldehyde molding powder. A typical mix contains about 35% phenolic resin, 25% keratin, and 25% wood flour plus various pigments, plasticizers, accelerators, and mold lubricants accounting for 15%. Compared to standard phenolics, the ones reinforced with the new powder are said to show almost identical impact resistance, 15% lower flexural strength, slightly higher water absorption, and an electrical arc resistance that may prove to be two or three times as great.

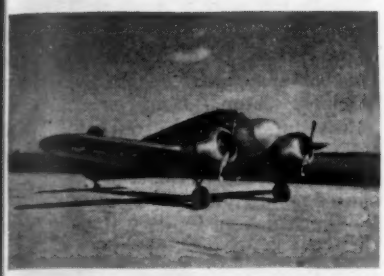
GOVERNMENT SURPLUS PLANES
FOR SALE

LOCKHEED "LODESTARS", CESSNAS, PRIMARY TRAINERS, BASIC TRAINERS

Planes now on continuing sale include Lockheed "Lodestars", Consolidated-Vultee Basic Trainers, Twin-Engine Cessnas, Boeing PT-17 Primary Trainers, and Fairchild PT-19 Primary Trainers. These models are type-certificated but individual planes must be repaired to meet Civil Aeronautics Administration airworthiness requirements for civilian flight.

Lockheed "Lodestars"

Low-wing, all metal cargo and passenger transports. Powered by two Wright 1,200 h. p. engines. Hamilton standard constant-speed propellers. Gross weight: passenger, 17,500 lbs.; cargo, 18,500 lbs. Fuel capacity 644 gals. Retractable landing gear and Fowler flaps. Can be inspected at Bush Field, Augusta, Ga. Sold directly by Aircraft Division, R. F. C., 1625 K Street, N. W., Washington, D.C. Prices: $25,000 to $50,000. Can be financed.



Twin-Engine Cessnas

Powered with two Jacobs Model L4MB engines, of 225 h. p. each. Operate on 73 octane gasoline. Cruise at approximately 140 m.p.h. Low-wing wood, steel and fabric construction. For sale at all RFC Sales Centers. Prices: $3,900 to $8,500. Can be financed.

Consolidated-Vultee Basic Trainers

Single-engine, 2-place, tandem seated, with enclosed cockpit. Powered with 450 h. p. Pratt and Whitney Wasp, Jr., and Wright engines. Equipped with dual controls and blind flying instruments. For sale at all RFC Sales Centers.

Primary Trainers—$875-$2,400

Both Fairchild and Boeing makes. Two-place, tandem, open cockpit—160 to 235 h. p. Cruising speed in excess of 90 miles per hour.

Sailplanes, Gliders—$350-$875

CAA type-certificated

Pratt-Read, TG32. Two-place-side-by-side sailplanes. Dual controls. RFC Sales Center, Americus, Ga. Price $500.

Waco CG-3A—9-place cargo and passenger gliders. New. For sale at RFC Sales Center, Americus, Ga. Price $875.

Taylorcraft TG-6 2-place gliders, convertible to power. For sale at RFC Sales Centers: Albuquerque, N. Mex.; Oklahoma City, Oklahoma; Ft. Worth, Texas; Phoenix, Arizona; and Ontario, Calif. Price $350.

Barrage Balloons

Light-weight 2-ply neoprene-coated fabric. Suggested for use where light weight weatherproof material is required. Two sizes available—one containing 260 sq. yds. of fabric; the other 781 sq. yds. For sale as a unit—$1.00 per sq. yd. Address inquiries to: Aircraft Division, Reconstruction Finance Corporation, 1625 K Street N. W., Washington, D. C.

SALES CENTERS

(Cities listed alphabetically by States)

LOCATION	AIRPORT
Birmingham, Alabama	Municipal
Decatur, Alabama	Municipal
Phoenix, Arizona	Thunderbird II
Tucson, Arizona	Ryan
Wickenburg, Arizona	Echeverria
Pine Bluff, Arkansas	Grider
West Helena, Arkansas	Thompson-Robbins
Blythe, California	Gary
Dos Palos, California	Eagle
Fresno, California	Chandler Field
Hemet, California	Ryan
Ontario, California	Cal-Aero
San Jose, California	San Jose
Denver, Colorado	Hayden
Miami, Florida	Chapman
St. Petersburg, Florida	Ludwig-Sky Harbor
Americus, Georgia	Souther
Augusta, Georgia	Bush
Douglas, Georgia	Municipal
Lansing, Illinois	Ford-Lansing
Indianapolis, Indiana	Sky Harbor
Davenport, Iowa	Cran
Wichita, Kansas	Municipal
Baton Rouge, Louisiana	E. Baton Rouge Parish
North Grafton, Massachusetts	North Grafton
Lansing, Michigan	Capitol City
Minneapolis, Minnesota	Victory
Clarksdale, Mississippi	Fletcher
Madison, Mississippi	Augustine
Cape Girardeau, Missouri	Harris
Kansas City, Missouri	Municipal
Robertson, Missouri	Municipal
Sikeston, Missouri	Harvey Park
Helena, Montana	Municipal
Omaha, Nebraska	Municipal
Reno, Nevada	Reno
Readington, New Jersey	Solberg-Hunterton
Albuquerque, New Mexico	Army Air Field
Albany, New York	Albany
Rochester, New York	Municipal
White Plains, New York	Westchester County
Charlotte, North Carolina	Cannon
Akron, Ohio	Municipal
Cincinnati, Ohio	Lunkin
El Reno, Oklahoma	Mustang
Muskogee, Oklahoma	Hat Box
Oklahoma City, Oklahoma	Cimarron
Ponca City, Oklahoma	Municipal
Stillwater, Oklahoma	Municipal
Portland, Oregon	Portland-Troutdale
Pittsburgh, Pennsylvania	Bettis
Bennettsville, South Carolina	Palmer
Camden, South Carolina	Woodward
Sioux Falls, South Dakota	Sioux
Jackson, Tennessee	McKellar
Union City, Tennessee	Embry-Riddle
Ballinger, Texas	Bruce
Corsicana, Texas	Corsicana
Cuero, Texas	Municipal
Fort Stockton, Texas	Gibbs
Fort Worth, Texas	Hicks
Houston, Texas	Municipal
Lamesa, Texas	Lamesa
San Antonio, Texas	Municipal
Stamford, Texas	Ariedge
Vernon, Texas	Victory
Salt Lake City, Utah	Municipal No. 1
Alexandria, Virginia	Hybia Valley
Olympia, Washington	Army Air Field
Morgantown, West Virginia	Municipal

RECONSTRUCTION FINANCE CORPORATION

A DISPOSAL AGENCY DESIGNATED BY THE SURPLUS PROPERTY BOARD

16—38

HOW
ELECTRONIC CONTROLS
PROTECT WORKERS
ON
INTERNATIONAL CIGAR MACHINERY COMPANY'S
ROLLING MACHINES

Pictured equipment of The International Cigar Machinery Company cuts the cigar leaf wrapper. The process involving the hand operation of placing the wrapper leaf on the die on top of the turret shown in the center involves a hazard to the operator against which she is completely protected by the Photo-electric Safety Control.

Its operation (shown diagrammatically) is simple and effective. The area in which hands are in danger is covered by two protective beams of light originating at (A) passing to (B) where it is reflected from an angled mirror to a similar mirror at (C) which in turn reflects it to the photo-electric cell (D). Any interruption of either of these beams automatically stops the machine and protects the hand from the pressure cutter rollers (E) moving across the die and from other moving parts. The interruption of the beam is also indicated by a monitor light at (G). The machine cannot run while the light beams are interrupted and remains at rest even after removal of the obstruction, till the operator presses reset button (F).

In addition to removal of accident hazards and attendant benefits, plants which now use this safety equipment report that the sense of security engendered in the operator has consistently stepped up production.

OTHER APPLICATIONS of United Cinephone Electronic Controls are almost without limit. If you have a problem of measuring, gauging, counting, sorting, heating, or some other operation in your plant, which is costly and unreliable, you will want to investigate the possibility of solving the problem ELECTRONICALLY. That's where our extensive experience and facilities in Electronic design, engineering, and manufacturing can be of invaluable help. Your inquiry will be welcome.

Electronic fields we cover include:

1. **Industrial Controls**
2. **Aircraft Communications**
3. **Laboratory Test Equipment**
4. **Radio and Audio Equipment**

UNITED CINEPHONE CORPORATION

32 NEW LITCHFIELD STREET
TORRINGTON, CONNECTICUT

Catalogs Thin But Nourishing

Mail-order houses offer customers restricted selections in scarce textile lines by using some priority assistance to get low-end materials for manufacturers under MAP order.

Strike-delayed 1945 fall-winter catalogs going out from Chicago mail-order houses to customers this week make this interesting disclosure:

Despite limited offerings, mail-order houses are likely to sell the bulk of the total low-priced clothing produced in this country under the Office of Price Administration-War Production Board program to channel scarce textiles to lower-priced essential items.

• **Stores Aided Manufacturers**—WPB regulations permitted the mail-order companies to use some priorities assistance for obtaining low-end materials. They then supplied these materials to their manufacturers for making up into the lower-price ranges. The manufacturer who serves the mail-order house thus could keep his average price down to the level required by OPA's Maximum Average Price order, while selling his higher priced lines to other buyers.

Hence, in a world from whose retail store counters such hard-to-get articles as men's shirts and shorts, overalls, and inexpensive children's garments have practically disappeared, this year's catalogs offer mail-order customers restricted selections in such lines—though the lines are smaller than in previous editions. Most of the big houses had voluntarily agreed with OPA to keep to their 1943-44 price ranges on the clothing offered in the fall catalogs.

• **Cautious on Offerings**—Catalogs are smaller this year because of merchandise shortages. Returning cash to customers whose orders could not be filled cost the mail-order companies important money last winter, taught them to include in the big catalogs only goods that they could expect to be able to supply.

To about 7,000,000 customers, Sears, Roebuck mailed a book smaller by 284 pages than last fall's issue. The decrease came mainly in the soft lines. Clothing is shorter; yard goods and draperies absent. Wool items are more plentiful than other textiles and there are more women's coats than other clothing lines.

Increased hardware and farm equipment offerings reflect larger assortments in lines formerly available. One new item is a dairy water heater which makes instant hot water available on farms that lack a pumped water system. Great sales expectations are based on the promise of sufficient hot water for cleansing dairy utensils on such underprivileged farms.

Index of purchasing power is Sears' offer of a 3¼ carat diamond ring at $4,900. Sears catalogs have carried first quality diamonds before but until 1945 the high was $1,500.

• **Furniture Is Scarce**—Montgomery Ward's fall book is down to 750 pages from last spring's 838-page issue. Furniture, prewar Ward feature, appears in smaller quantities in the new book. Drapery materials, sheeting, and men's shirts and shorts are out entirely. If Ward buyers round up any such scarce merchandise, it will be sold through the firm's retail stores.

Chicago Mail Order Co. again issued

CHIC HOSE

When Perugia's, fashionable Paris shop, found itself short of shoe leather, it turned—with characteristic French ingenuity—to discarded fire-hose. Result: summer footwear (above) of such color and style as to suggest that Parisian designers are a force to be reckoned with in the post-war battle for fashion supremacy.

miniature edition (BW—Feb.3'45, 83), supplementing its regular catalog. he half-pound digest of the big book ows only selected lines of best-selling erchandise, and goes to a special list new customers who as yet have t proved themselves first-line mail- der buyers.

Old customers will receive the stand- d C. M. O. 518-page catalog, 40 pages s than last fall. It offers fewer wom- 's coats and dresses, but more fants' wear and teen-age dresses. Sig- ficantly the catalog reflects the com- ny's decision to go whole-hog into me furnishings in order to supple- ent its traditional soft lines. C. M. O. ts a few lines of curtains and draperies, addition to several pieces of yard ods.

Five-Section Spiegel—The new Spiegel talog has five sections corresponding the firm's plans for five chains of re- l stores in five different lines. For e first time, catalog customers are en the opportunity to buy the same es of women's fashions as those that sold in the Spiegel-owned retail ly stores.

Millinery and cosmetics, omitted for eral seasons, are back in the book. spite the textile shortages, children's es include such items as girls' cotton esses at $1.80, corduroy and denim y clothes, infants' sheets, and flan- lette sleeping garments.

Sears, Ward, and Chicago Mail Or- Co. catalogs were mailed almost a nth behind schedule because of the ke in Donnelley's Lakeside Press W—Jul.25'45,p104). Only Spiegel's, ose printing is done at W. F. Hall nting Co., sent out its semiannual tion by July 10, the traditional mail- date of the industry.

LZNICK JOINS RANK

. Arthur Rank, British film leader, ntinues to collect mementoes of his ent U. S. tour. Following a distri- ion deal with RKO Radio Pictures, ., for two or more pictures (BW— 21'45,p32), comes announcement t David O. Selznick, Hollywood pro- er, has joined Rank to form Selz- k International Pictures of England, d.

Starting next summer Selznick will ide his time between Hollywood and ndon, with about one-third of all his ure productions emanating from oad. Rank, who is chairman of the rd, is to supply 100% of the finances the Selznick British productions. e first picture, "Mary Magdalene," l be filmed in technicolor in London, ring Ingrid Bergman and Joseph tten, at an estimated cost of $5,000,- 0. Two other films scheduled for the

"A Todd Check Signer Would Help His Disposition!"

Don't sign your life away. Todd MACHINE Check Signers cut the time you need to spend in signing checks to *nothing flat.*

You can end the drudgery of time-wasting hand signatures with a Todd Protectograph Check Signer that produces from 1000 to 3000 insured, four-color signatures per hour. And you enjoy complete peace of mind because three Todd control features—dual lock system, removable signature plate and automatic counter—guard against unauthorized use.

There are hand and electric Todd Check Signers in several models to meet both your disbursement problems and your budget needs. Mail the coupon, a letter or postcard *now* and get the facts promptly.

TYPICAL USER COMMENT:

■ "The time which your Model 54 Check Signer has saved the writer personally is incalculable, and the safety provisions which you have installed in the machine are so complete that we have never had any hesitancy in making the fullest use of its services. The investment is nominal compared with the service rendered."

Kalamazoo Vegetable Parchment Co. Kalamazoo, Michigan

Todd COMPANY, INC.

ROCHESTER NEW YORK

SALES OFFICES IN PRINCIPAL CITIES

DISTRIBUTORS THROUGHOUT THE WORLD

THE TODD CO., INC., Rochester 3, N.Y.

Please let us have the facts about Todd Check Signers and how they speed up operations, save executive time, and increase safety and control.

Company _____

Address _____

City County State

By _____

BW-8-45

first year call for an additional $3,000,000. Selznick will export stars, directors, writers, and technicians for some of the pictures.

Indications are that both Universal Pictures, in which Rank already holds a 25% stock interest, and Hal B. Wallis, independent producer, may be next to join deals with British producers. It is possible that more independent Hollywood producers may follow this pattern.

Citywide Co-ops

Chicago group proposes chain of twelve supermarkets to sell food and appliances. SEC is asked to approve stock.

Plans to pioneer a citywide chain of consumer cooperatives selling food and household appliances are being formulated by a group of Chicagoans.

Chicago Consumer Cooperatives, Inc., headed by Harland H. Allen, last week filed application with the Securities & Exchange Commission for a $350,000 stock issue to finance the venture. Allen is a free-lance economist with a predepression bank background who recently has been active in Chicago consumer-movement circles.

• **Follows the Pattern**—C. C. C. plans twelve supermarkets which at first will sell food and will also sell and service household appliances. The program for retailing household appliances follows a move made last winter by National Cooperatives, Inc., buying agency owned by 18 big wholesale co-ops (BW—Feb.17'45,p95). N. C. plans a line of co-op brand refrigerators, radios, water-heaters, home freezer units, stokers, irons, vacuum cleaners, and other home and farm appliances for postwar distribution. The electric refrigerators and home freezers are scheduled for limited production in 1946.

Organized on the orthodox cooperative pattern, C. C. C. plans to raise its capital through selling dividend-paying stock to members. Announced price of shares is $20 with a limit of 50 shares to a buyer. Stock is authorized to pay up to 4% interest as earned. Paid-up shareowners will be entitled to cash refunds on purchases, paid out of any savings (cooperators' term for profits) in excess of dividend requirements.

• **Expansion Foreseen**—The schedule calls for six stores by Jan. 1, 1946, with other markets opening as rapidly as locations and managers can be obtained.

Allen and his associates expect co-ops already operating in the Chicago area to consolidate with C. C. C. once it gets going.

Stratovision Relay

Westinghouse plans test of broadcast planes to increase the range of FM and television transmitters on the ground.

A major drawback to FM (frequency modulation) and television broadcasting has been that FM and video waves travel in straight lines, thus limiting the range of a single transmitting station to the distance from transmitter tower to horizon.

• **Range Increased**—Westinghouse Electric Corp. this week proposed solving this problem by the simple expedient of broadcasting from special planes cruising lazily 30,000 ft. above the earth.

Result would be to increase the effective range from about 50 miles for conventional transmitters utilizing high towers on the ground, to upwards of 200 miles in the case of a transmitter 30,000 ft. above the earth.

• **Less Power Needed**—Further advantage of the Stratovision system, according to Westinghouse, is that as the height of the antenna is increased, the power output required to deliver a usable signal is sharply reduced. Thus a plane-borne transmitter at 30,000 ft. would cover an area 422 miles in diameter with 1 kw. of power, while 50 kw might be used by a ground transmitter covering an area only 100 miles in diameter.

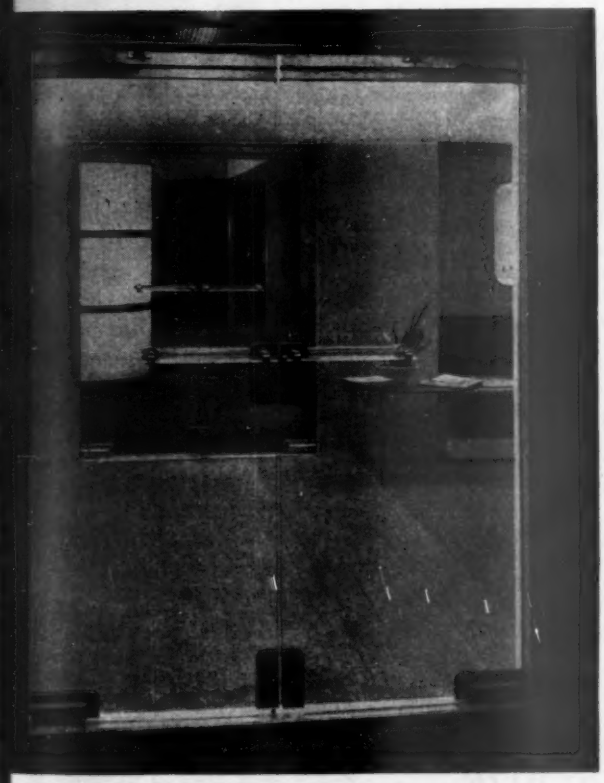
So certain is Westinghouse of the feasibility of the idea that it has applied to the Federal Communications Commission for permission to make flight

EKING OUT THE SQUEEZE

While OPA, restaurants, and private citizens wrangle over who's getting the most rationed food, life and war production go on. When 15 restaurants closed in Auburn, Calif., in protest against insufficient ration points the municipal government pitched in to help distribute (above) 2,500 lunches a day to help keep the city factory production line going. And a member of the local Lion's Club deprived by the OPA-restaurant contretemps of the regular weekly luncheon, poses for convenient cameras with his lunch carried over his shoulder (left) Dick Whittington-style before convening with his brethren.

Glass IS A "natural" FOR PUBLIC BUILDINGS

Sparkling Tuf-flex Glass doors and stair-rails present an inviting picture in the concourse of the Washington, D. C. Airport.



Walls of blue Vitrolite, the L·O·F Structural Glass, give unusual beauty to this office lobby... seen through the clear Tuf-flex tempered glass doors. Blue Ridge Flutex Glass shuts off a stairway at the left, yet transmits light onto the steps it encloses.

"Daylight Engineering"

—the designing of structures to admit an abundance of natural daylight is proving of outstanding benefit in countless public buildings.

Today's wider use of glass stems from its versatility... from its many practical, desirable properties. Glass provides a rigid, impervious barrier to weather, yet freely admits light. Use clear glass for transmission of light and view, translucent figured glass for light with privacy, opaque for a colorful, hard, smooth surface that doesn't need refinishing. Colorful or clear, glass is a material of *lasting* beauty—for it can easily be cleaned time and again without harm to its lustrous finish.

These are reasons why architects and building management look to glass for new ideas and new benefits in postwar building. For your home, your own business structure, or any other construction in which you may be interested, be sure to consult your architect on the many benefits of glass. Libbey·Owens·Ford Glass Company, 1985 Nicholas Building, Toledo 3, Ohio.

L O F

LIBBEY·OWENS·FORD

a Great Name in **GLASS**

"THAT'S A BANG-UP JOB WE'VE TURNED OUT!"

NEKOOSA'S TIP..."IT PAYS TO PLAN WITH YOUR PRINTER REALLY PAYS!

Planning to produce new business stationery or advertising pieces? To be sure of finer printed results, and important savings in time, work, worry and paper, plan *every* job with the aid of your printer. And to be doubly sure of finer printed results, specify NEKOOSA BOND. Remember, it's Pre-Tested to assure perfect performance.

BUY MORE AND MORE WAR BONDS

Paper is still a vital war material. To conserve paper now, more than ever . . .

IT PAYS TO PLAN WITH YOUR PRINTER

Nekoosa Bond

One of the Pre-Tested Business Papers manufactured by the Nekoosa-Edwards Paper Company, Port Edwards, Wisconsin. Companion papers are JOHN EDWARDS BOND, NEKOOSA MIMEO BOND, NEKOOSA DUPLICATOR BOND *and* NEKOOSA LEDGER.

tests, scheduled for autumn. It has also enlisted cooperation of the Glenn L. Martin Co. on aeronautical aspects.

• **How Relay Works**—Conceived by C. E. Nobles, 27-year-old Westinghouse engineer, the Stratovision system would work in this fashion:

A specially designed 20-ton plane, built to stay aloft eleven hours and cruise at less than 150 m.p.h. (slow by current standards), would carry four television and five FM transmitters, plus necessary receivers.

Climbing to 30,000 ft., it would receive programs beamed to it from conventional ground studios. For this purpose, directional ultra-shortwave radio transmitters will be used. The plane's transmitters would simply rebroadcast these programs, each on its own wavelength. Thus each of the nine transmitters in the plane would function as a separate station, increasing the economy of the operation.

• **Coast-to-Coast**—Eight such planes, flying over New York, Pittsburgh, Chicago, Kansas City, Curtis, Neb., Leadville, Colo., Salt Lake City, and Los Angeles, could provide a coast-to-coast radio relay system for chain programs. Six more over Durham, N. C., Atlanta, Dallas, Sacramento, and Portland, Ore., would give coverage for 51% of the nation's area and 78% of its population. Cost would be far less than ground relay systems, or coaxial cables (BW—Apr. 28'45,p104), Westinghouse says.

Power for the nine FM and television transmitters, plus monitoring and relay equipment, would be obtained from the plane's 1,450-hp. twin engines. The plane's operating altitude will be above that of most storms, while its range will permit it to take off and land at distant bases whenever weather closed down flying fields closer to broadcast locations.

• **Two Always Aloft**—Four planes may be used at each base, with two in the air at all times—one handling programs, the other standing by to take over in case of any emergency. A fifth smaller plane might be used to cover special events and relay programs directly to the parent plane for local or network broadcast.

FEDERAL TURNS TO FM

Federal Telephone & Radio Corp., Newark, N. J., wholly owned subsidiary of International Telephone & Telegraph Corp., which recently dealt itself a postwar hand in the competitive electrical appliance market, has announced expansion plans in another direction. It will make a full line of FM (frequency modulation) broadcast transmitters and antennas with power ranging from 250 watts to 50 kilowatts.

A CHEAPER VIEW

And now the television set tha easy on the pocketbook. Viewto *Co., New York, tackled the mar from a price angle last week wh it displayed its table model* (above) *retail at $100. The unit project 5x7-in. image which is said to be clear as that ordinarily achieved larger receivers. Now producing o war equipment, Viewtone—a n comer in radio production though tive in research since 1931—will st work on the low-cost model at its cently acquired Brooklyn plant soon as war conditions permit.*

Reports are that Federal, which m ufactured standard transmitters bef the war, has developed its own syst of FM and, like RCA, will not use patents of Maj. Edward Armstrong, F inventor.

P. S.

Interstate Theaters of Dallas week announced plans for an 800-s television theater in Galveston; A. Balaban, general manager of the R Theater in New York City, and F W. Dobe, industrial engineer, ea this year made known their plans such a show place in suburban Liber ville, north of Chicago. . . . For the fi time since 1942, General Electric C automatic blanket and sun lamp vision in Bridgeport, Conn., last w was producing its Sunbowl porta room heaters on an assembly line ba and without government assistance materials; still adhering to Presid Charles E. Wilson's 1944 pledge, a has in irons and clocks, consumer s were being made at the prewar he price of $5.90.

Bankers Life Announces

New Kind of Group Life Insurance

1—Pays up during the employee's productive period

2—Permits low-cost conversion by employee if employment terminates

What is more, this new kind of group life insurance provides guaranteed cash values, with non-increasing premium payments. This is the form of group life insurance that foresighted employees have wanted for years. All the permanence of individual policies. So flexible it can be fitted into an existing company pension plan or used to increase retirement benefits.

CHECK AND COMPARE THE FEATURES OF THESE NEW BANKERS LIFE PLANS

Group Permanent Whole Life Plan

In this plan, low guaranteed level premiums are paid during the life of the employee.

Group Permanent Life Paid Up at 65 Plan

In this plan, low guaranteed level premiums are paid only until the employee is 65.

Both Plans Provide These Unique Advantages . . .

They provide paid-up insurance or cash values that start with the first year and increase each year. Insurance protection need not be lost by changing jobs. Employee may convert to an individual policy without medical examination, and at very reasonable cost. Initial tables of rates guaranteed for the life of all insurance purchased within the first 3 years.

No complicated forms, no medical examination or rejections for coverage within the group limit. Employee may have a wide choice of settlement options enabling him to coordinate his group insurance with his personal insurance program.

Both plans are simple to put into effect and easy to administer because each is a single contract. Values from the first day avoid unduly penalizing the employer for employee turnover.

Bankers Life leads in offering this new and more liberal form of group life insurance.

If you employ 50 or more people, by all means get full details of the Bankers Life "Group Permanent Whole Life" and "Group Permanent Life Paid Up at 65" plans. Both of the plans are the last word in flexibility. These two new plans are especially desirable for employer and employee. On termination of employment, employee can continue his insurance at low cost. Employer can pay for insurance during the employee's productive life.

For complete information, call any Bankers Life office, or write to

BANKERS *Life* COMPANY

Des Moines 7, Iowa — *Established 1879*

All Forms of Group Insurance . . . Ordinary Insurance . . . and Annuities . . . Assets over $335,000,000 . . . Surplus Funds over $17,000,000

LABOR

Charter for Labor Peace

Vandenberg proposal for industry-worker conference on new machinery to settle disputes gets quick approval from both sides, but adverse reaction from left-wing of organized labor.

From time to time in considerations of postwar peace programs for labor and industry, there have been hints that both sides might welcome a government-supported conference to consider the possibility of labor relations machinery that would hold friction to a minimum—with little or no government intervention.

• **Urged by Vandenberg**—Last week U. S. Senator Arthur H. Vandenberg (R., Mich.) made public a proposal for such a meeting of industrial, government, and labor representatives.

The proposal brought prompt and favorable reactions from major segments in labor and industry—including the National Assn. of Manufacturers, which had refused to indorse the so-called Labor-Management Charter drafted by Eric Johnston of the U. S. Chamber of Commerce and C.I.O. and A.F.L. heads earlier this year (BW—Apr.7'45,p80).

• **Backed by Administration**—There is little doubt that the conference will be held, and that it will have the personal indorsements of President Truman and Secretary of Labor Lewis B. Schwellenbach to whom the plan first was broached when Vandenberg met the secretary in the lobby of the hotel where they both live. That chance contact was followed by an exchange of letters and a two-hour conference between the two men, former Senate colleagues.

However, with details still not settled, the conference cannot be considered imminent. Schwellenbach, now busy with reorganization of his department, would prefer to get that job done before tackling the conference. September is the earliest date hinted for the conference; it might be later.

• **Barriers Fall**—As soon as the project was aired, President William Green of A.F.L. gave it his blessing, and his union appeared ready to get on the bandwagon, without reservations such as those which scuttled the Johnston charter. Then, Green's executive board refused to back him up in a plan which would give C.I.O. equal recognition with A.F.L. in labor-management peace machinery. Since then, many A.F.L. board members have swung over to the labor-industry conference plan.

Another barrier was toppled when Ira Mosher, N.A.M. president, agreed to participate "in a movement that has its origin in an atmosphere of give and take."

Mosher, who had balked at the indefinite nature of the Johnston charter, said that he is convinced "labor and management can find many areas of agreement" and "means of reconciling many points of disagreement."

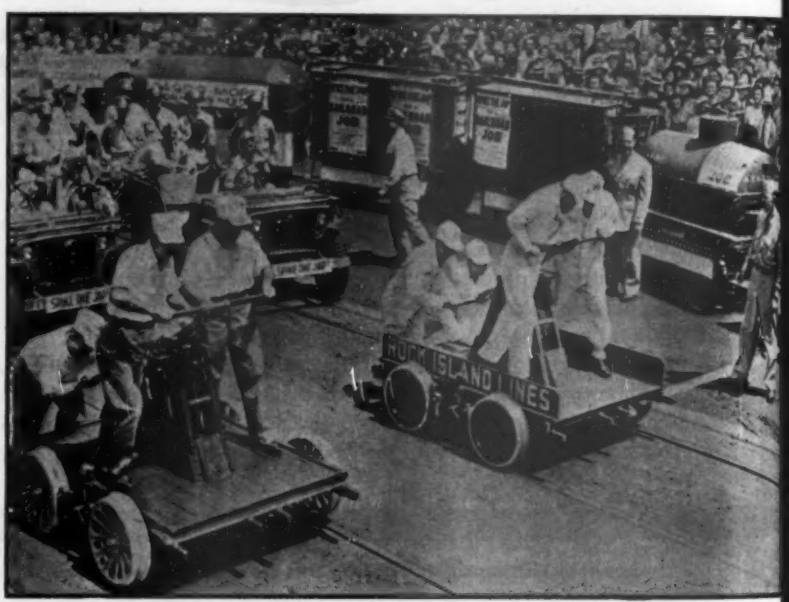
• **C.I.O. Concurs**—Johnston added his indorsement. Philip Murray, C.I.O. president and the third signer of the original labor-management pact, gave his unreserved support. John L. Lewis, United Mine Workers president and bitter critic of federal intervention in labor relations, was reported to be favorably inclined toward the conference.

Only from the extreme left-wing labor groups was there immediate opposition. The Communist Daily Worker viewed "with deep suspicion any proposal that originates with Sen. Arthur Vandenberg," and questioned the prompt indorsement from N.A.M. Other leftist segments of the press hinted darkly of the consequences of failure if labor and management get together at the conference, warned of trouble if an open break should occur.

On the other hand, farm leaders of the National Cooperative Milk Producers Federation and the National Farmers Union urged that agriculture have representation.

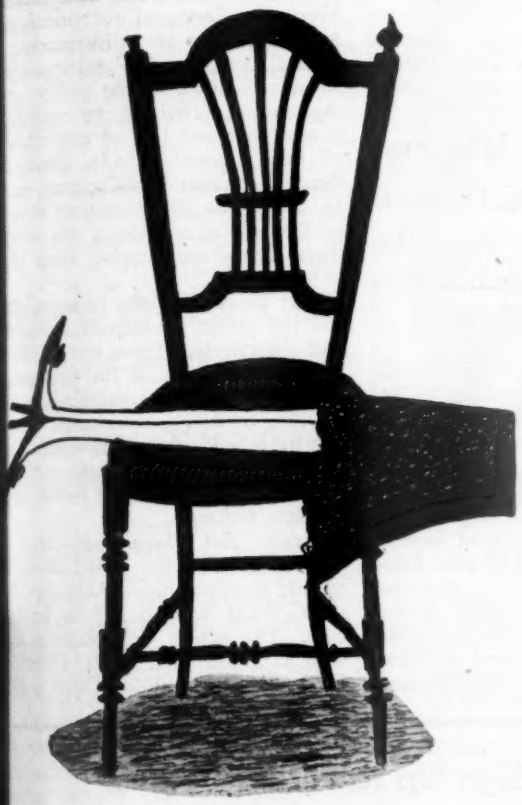
• **Formula Available**—The conference probably will follow the formula of that convened in Washington shortly after Pearl Harbor. Labor, industry, and government at that time discussed wartime production problems and how friction could be minimized. Outcome was labor's no-strike pledge and the tripartite National War Labor Board to settle disputes.

Greater difficulty is expected with peacetime problems of labor and industry, but with both groups opposed to prolonged government controls and intervention, impetus will be given to a search for machinery for adjusting industrial disputes. NWLB is expected

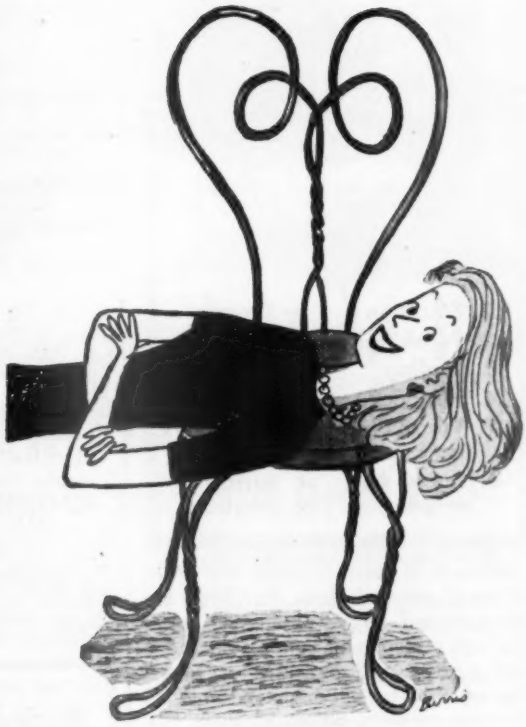


TO GET THEM WORKING ON THE RAILROADS

On trolley rails in Chicago's State St., a ballyhooed handcar classic signals the start of another race against time—the recruiting of 65,000 workers this month to assist western railroads over the military redeployment hump. Co-sponsors of the drive, the Army Transportation Corps and the Western Railroad Urgency Committee, left few publicity stones unturned to catch the public eye. A "big name" band led a prerace parade, and the Santa Fe crew which won handily over Rock Island's collected war bonds and kisses from model



It's all done with mirrors



good magician almost makes you nk he really *does* saw a girl in lf.

Today, as a result of wartime re-rch, glass does many other star-g things that *aren't* illusions. ce only hard and brittle, glass w can be sawed like wood, twisted d woven like silk. It will bounce e a ball and float like cork.

The new glass is being used as nsparent armor plate in airplanes — it will stop armor-piercing bullets up to .50 caliber. It serves the Army as the facing for its 800-million-candlepower searchlights — it won't crack even at sub-zero temperatures.

The glass industry is adding to America's armed might in numerous other ways. And you may be sure that peacetime will see it contributing a great many new conveniences and comforts to our every-day living.

Soda ash is an essential ingredient in glass manufacture. And Wyandotte Chemicals Corporation produces thousands of tons of Wyandotte Soda Ash each year for glass . . . thousands of tons of other chemicals for many industries.

Wyandotte
REG. U. S. PAT. OFF.

OFFICES IN PRINCIPAL CITIES

ANDOTTE CHEMICALS CORPORATION · WYANDOTTE, MICHIGAN

Alkalies • Chlorine • Calcium Carbonate • Calcium Chloride • Dry Ice • Other Basic and Intermediate Organic and Inorganic Chemicals • Specialized Cleaning Materials for Business, Industry and the Home.

WOOL FELT Mechanical functions fulfilled by this non-structural engineering material

FILTRATION

The radial fin element of all Protectomotor Industrial Filters is Feltex, a special Felt designed by Staynew Filter Corporation and American Felt Company engineers. Photo shows elements before and after use in needle control valve of a pneumatic tool.

1. Filtration ✓
2. Polishing
3. Sealing
4. Wicking
5. Vibration Isolation
6. Sound Absorption &
7. Thermal Insulation
8. Shock-absorbing
9. Cushioning
10. Padding
11. Packaging
12. Surfacing
13. Frictional

Because of versatile blend and distribution of selected fibres, Felt filters are characterized by slow plugging rates and high retention efficiency. Adapted to both gravity and pressure equipment, they are used for filtering electro-plating solutions, solvents, paints, lacquers, oils.

Felt's non-reactive tendencies enable it to be used in filtering photographic emulsions, nutrient broths and fruit syrups. Capable of sterilization, it has a unique surgical application in intravenous feeding sets for blood transfusions.

Widely used in respirators, air conditioning and industrial dust, fume and mist filters, it has a tested efficiency in excess of 99 per cent by weight in the removal of 0.5 micron mean diameter lead fume particles from air.

When figuring any filtering problems, an American Felt Company engineer — experienced in filter design — is available for helpful counsel. Please get in touch with our nearest office.

American Felt Company

TRADE MARK

General Offices: GLENVILLE, CONN.
New York; Boston; Chicago; Detroit; Philadelphia; Cleveland; Los Angeles; San Francisco; Dallas; St. Louis; Seattle; Atlanta

to have suggestions to make on that score, for the board's public members have been studying such a plan.

Significant in the light of the Ball-Burton-Hatch industrial relations bill (BW—Jun.30'45,p15) is Vandenberg's statement that "I doubt whether it [industrial peace] can be dictated by summary legislation—except as a last resort. I decline to believe that it cannot be written into law by the common recommendation of all concerned if they meet together under proper auspices."

Ward Says Piece

Company official tells off NWLB in blistering terms. The board listens and then orders seizure of seven more units.

The National War Labor Board believes that something is achieved by letting disputants unburden themselves publicly of all the steam and fire they have accumulated. A period of sweet reasonableness is supposed to follow.

The board has received, with scarcely a wince, the defiant sneers of experts like Matt Smith of the Mechanics Educational Society of America, and the dares of Woodruff Randolph of the Typographers. But for sheer acrimony directed at the board, none of them surpassed John Barr, Montgomery Ward's labor relations manager, w was called in last week to show why company had not complied with NW orders affecting seven units.

• **As Expected**—Nobody thought fo moment that Sewell Avery was re to yield an inch to the board, a nobody was disappointed. Barr braided the board for: bias, prejudi hypocrisy, disrespect for principles fairness and of law, disseminating ceitful propaganda, misrepresent Ward's position to the public, gra ing special privileges to unions, competence and lack of understandi of basic economic facts, disregardi the clear commands of Congress, seek to undermine the economic struct of the nation, and doing the nation disservice by encouraging labor un in time of war.

Barr went after the industry, lab and the public memberships separat and collectively. It was just a little much for a couple of the younger a thinner skins on the public side. Je Friedin, presiding, murmured a de that the board had favored unions. Le Gill thought the remarks unworthy o member of the bar. No sweet reas ableness followed.

• **Speedy and Unanimous**—After hearing, it took the board about minute to agree unanimously that se more Ward units ought to be ta over. The papers were shipped fo with to William H. Davis, Director Economic Stabilization. Davis is on

Businessmen Sign Up to Hire Veterans

Industry for Veterans, Inc., is on the march. To win membership in this Chicago organization that has been growing steadily since its founding last April, an employer pledges that he will try to maintain a minimum 25% of his postwar employees from among veterans—both men and women—and that as much of his new hiring as possible will be from the service ranks. The group plans a national drive to line up industry in a united bid to do something for the returning serviceman.

• **An Ex-Congressman's Idea**—James Simpson, Jr., has a formidable list of middle western businessmen as directors of I. V., but he fathered the idea and pays all the bills. There are no dues from members or directors.

Son of the James Simpson who left the chairmanship of Marshall Field & Co. to take over direction of Chicago's utilities after the late Samuel Insull had left for parts unextraditable, the junior Simpson served one term in Congress. Besides his concern for his fellow veterans, Simpson has never wholly abandoned interest in public office and is presumably aware that any recognized friend of the discharged veteran is not to be ignored as a postwar political force.

I. V. concentrates upon the approximately 50% of all men in uniform who have never held regular jobs. Its program is dual: to sign up businessmen and to acquaint servicemen with the industry pledge.

• **435 Signers to Date**—A publicity campaign in service papers and on radio time is under way, aimed at the G. I. Eventual plans call for stepped-up publicity to servicemen and for advertising in business publications directed to prospective signers of the pledge. Record to date: 435 firms in 16 states have joined, with aggregate payrolls covering 500,000 wage earners.

tion, none of the units has been ruck, and the Army isn't anxious to d to its mail-order woes. So there ill be some delay.

The new seizure recommendation vers Ward units at Barre, Vt., Washgton, Pa., Kansas City, Mo., Kansas ity, Kan., Trenton, N. J., Pueblo, olo., and Baltimore.

One thing the hearing underscored: Whatever has happened to the Comunist party line, the no-strike pledge still a byword of the Longshoremen's nion, which has an interest in Ward's altimore mail-order house. Harry ridges said he would like to take on Ward's in peacetime. He felt sure he ould get something better than mainnance of membership. In the meanme, no strikes for Bridges.

Work-Week Cut

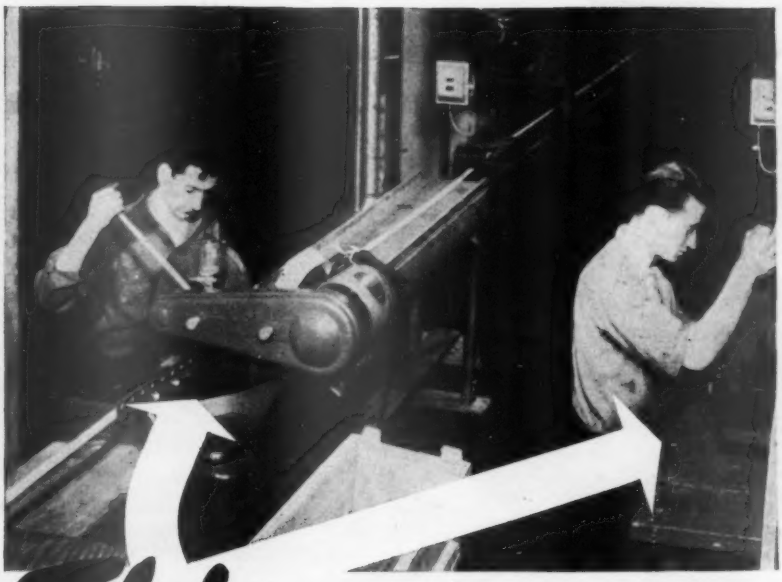
Jack & Heintz drops from 5 to 40 hours after layoff of 37 veterans and service wives videns dispute with union.

Bill Jack, resilient president of Jack & Heintz, Inc., Cleveland, this week took nother step away from the plant's long ork-week—and fabulous wartime takeome pay. At a meeting of 3,000 of the ompany's "associates," he announced hat the work period (once 84 hours) is eing reduced temporarily from 55 hours o 40 hours.

Labor Crisis—The reduction, announced by Jack as a precaution against urther layoffs due to cutbacks and ermination of war contracts, apparently eft Jack—for the present at least—sitting igh and dry after a new labor crisis rought into the open a 14-month nmity which has existed between Jack nd Matthew DeMore, president of Disrict 54, and other representatives of the nternational Assn. of Machinists A.F.L.) which has a closed shop agreeent at Jack & Heintz.

Two months ago the specter of cutacks caused Jack to suggest that resigations of a part of his large force would e gratefully accepted by management BW—Jun.9'45,p84). Resulting uproar nd confusion within Jahco's hard-won orker organization caused Jack to backack with an announcement that new ontracts had been obtained and no esignations were necessary.

Veterans Complain—The reprieve was hort. Faced with the disagreeable task f making cuts in personnel, Jack announced over the four-plant public ddress system on June 15, through emloyee magazines, and by notes tucked nto pay envelopes, services of 1,890



This production-line operation simplified . . .

by utilizing a standard Delta tool

● The above illustration shows how R. D. Werner Co., Inc., New York, N. Y., uses a standard Delta-Milwaukee Machine Tool, to get an efficient sequence of operations in the dry extrusion process of making thermal plastics for decorative and structural shapes.

A compact Delta-Milwaukee Cut-Off Machine supplements the production line, so that the continuous strip material can be cut to proper lengths as it comes from the forming machine.

This is representative of the ways in which hundreds of plants have employed Delta's modern, flexible approach to tooling — on a wide variety of operations.

Low-cost Delta-Milwaukee Machine Tools and the ingenuity of your engineers provide a working combination that results in practical, economical solutions to many production problems. Delta's savings in cost, weight, and space are not made at the expense of quality, but are due to advanced design and modern production methods applied to a large volume of standard models.

Perhaps a study of the versatility of Delta-Milwaukee Machine Tools may suggest ways of cutting *your* investment risk in retooling.

Delta MILWAUKEE Machine Tools

Production ideas that get results — typical of practices you can profitably employ:

1. Use standard, low-cost Delta components to build high-production, special-purpose machines — quickly convertible to other uses when requirements change.

2. Modernize your present machines that are rapidly approaching obsolescence, by replacing worn elements with regular, stock-model Delta components.

3. Utilize the portability and compactness of Delta-Milwaukee Machine Tools, to revise or supplement production-line layouts for balanced output.

Delta's 76-page Blue Book provides 140 case histories of war-production experience, to help you more clearly visualize the flexibility of portable, compact Delta-Milwaukee Machine Tools. Also available is a catalog of these low-cost machine tools. Request both, using coupon below.

TEAR OUT COUPON AND MAIL TODAY!

THE DELTA MANUFACTURING CO.
901H E. Vienna Ave., Milwaukee 1, Wis.

Please send me my free copies of Delta's 76-page Blue Book and catalog of low-cost machine tools.

Name_____

Position_____

Company_____

Address_____

City_____ (____) State_____

MA-24

Only in R. C. Allen Adding Machines ***do you get ALL these features:*** **smart design • visible total dials • automatic clear signal • two color ribbon • light-touch keyboard** ***and*** **type aligning bail, which keeps type horizontally in line even after many years of hard use.**

R.C.Allen Business Machines

ALLEN CALCULATORS INCORPORATED
678 FRONT AVE. N.W. GRAND RAPIDS 4, MICHIGAN

Manufacturers of 10-Key Calculators, Portable and Standard Adding Machines, Bookkeeping Machines, Cash Registers, Statement Machines and All-Purpose Office Machines.

THE SQUEEZE IS ON!

Prepare *now* to bolster your margin of post-war profit. Faced with stiffer competition of peace-time, management will have to turn to cost-cutting efficiency, as never before.

Modern York-Heat—the most complete line of industrial, commercial, and domestic oil-fired equipment in America—is engineered and precision-built to an unbelievable degree of efficient, economical, trouble-free operation. York-Heat Horizontal Rotary Oil-Burners and Industrial Boiler-Burner Units will reduce operating-costs for you where they begin . . . in the power-plant.

The York-Heat engineering staff is anxious to produce the proof, and tackle your specific problems. Consult it *now*, for a head start on post-war.

YORK-HEAT

Division of YORK-SHIPLEY, Inc., YORK, Pa.

Member Oil Heat Institute of America

BUY MORE AND BIGGER BONDS

associates (about one-third of all em-ployees) were being terminated—"and God bless you."

The direct approach to personnel re-duction fared no better than Jack's previ-ous resignation suggestion. The 1,89[illegible] associates—all of whom were hired dur-ing 1944 and 1945—included 117 war veterans without Jahco seniority prior to 1944, and 220 wives of former asso-ciates of Jahco now in the armed forces.

While other workers, without protest, accepted releases, two weeks' vacation pay based on a 48-hour week, and the privilege of cashing in company stock shares at face value plus accrued divi-dends, the veterans and service wives complained to newspapers and to the I.A.M. that they were being fired in violation of a waiver of seniority rights in their cases. Jack previously had urged married women associates with working husbands to resign to permit veterans and service wives to keep jobs.

• **Tossed to Union**—Jack, with characteristic adroitness, moved to place the seniority issue in the lap of the asso-ciates and I.A.M. A meeting of asso-ciates was scheduled and company and union arranged a ballot which, it was agreed, was to decide whether veterans would be kept on the payroll by sacri-ficing married women employees with more seniority.

When the meeting was convened, I.A.M. officials took over and announced that Jack could not attend since it was purely a union meeting on a union issue. The move so infuriated many of the 5,000 attending that union officials ad-journed the meeting in confusion of continued booing.

Within an hour Jack called a meet-ing of associates for the following day. There he announced, in addition to the reduction in hours, that the 117 war veterans and a part of the service wives already have been rehired. The men are to stay permanently unless there is an-other layoff—in which case they must be the first to go. The service wives are to remain until their husbands return to claim their jobs. The re-employment is being handled, associates were told, within the framework of their union seniority structure.

• **Backing for Jack**—Unlike the previous day's booing of union leaders, Jack was greeted with cheers. His request for an "unofficial" standing vote on the ques-tion of waiving seniority rights in behalf of ex-servicemen and service wives "as long as it does not cost you your job" had most of the associates on their feet.

Ill feeling between Jack and I.A.M. was intensified when Jack charged union officials with duplicity in connection with changing company and union agreed-on wording on the proposed seniority waiver ballot.

SEAM WELDING IS A PAINSTAKING OPERATION... MATERIAL MUST BE SMOOTH AND JOINT MUST STAND 60 POUND PRESSURE

We bend 'em—twist 'em—coil 'em—flare 'em flange 'em and swage 'em with "micrometer" accuracy

s, we have been working wonders bending TUBES, since 10. Our smoothly working team of able engineers and hly skilled workmen make tubes squirm around in any ection like a pretzel to follow the most intricate designs, *h accurate precision.* Intake pipes, exhaust collectors and nifolds, oil lines, landing gear struts and forks, airplane t frames, control sticks, oil slinger tubes for de-icing, ition manifolds, etc.

're doing a war job—with the same reliability, precision d custom-built accuracy for which American Tube nding Company, Inc. has been known for 35 years to the plane and automotive industries.

If you have problems in tube-bending put them up to us. Write for informative booklet about tube-bending at its best to American Tube Bending Co. Inc., 8 Lawrence St., New Haven 11, Conn.

AMERICAN TUBE BENDING COMPANY, INC.

PRECISION to aircraft standards

THE LABOR ANGLE

Solidarity

One aspect of the strike in United States Rubber Co.'s Detroit plant, which ended last week with government seizure (BW–Aug.4'45,p102), deserves special attention. The plant was held strike-bound for two weeks by a twelve-man picket line.

The phenomenon of a handful of pickets keeping a huge plant idle has only recently come to be an ordinary thing in this country. It conforms to a pattern much better known in England and in Europe. The traditional American strike scene involving a large factory has always been filled with something resembling a mob; mass picketing almost invariably characterized any major industrial dispute.

The change which has led from mass picketing, that reached its heights in 1937 and 1938, to skeleton picketing, that may be symbolized by the Detroit rubber strike, is of considerable significance. It suggests that the authority of a picket line has found a large measure of acceptance among American workers; that strike-solidarity–an important facet of class-consciousness from which American workers were so long thought to be free–has really developed in this country. It suggests, in short, that when the new American union movement comes of age its economic power will be exerted in token demonstrations which can be even more effective than the full mobilizations it used in the past.

Shift

When William Green, A.F.L. president, told a textile workers' mass meeting in Westport, Mass., recently that the "C.I.O. is on the way out," C.I.O. leaders grimly noted this first open declaration of the federation's intent to swallow up its rival once the war ends. Green's statement did not, however, worry them unduly. They remained convinced that it will take more than A.F.L. organizing efforts to shake the C.I.O.'s position as principal representative of labor in the mass production industries.

What does worry the C.I.O., however, is the kind of development which is epitomized by last week's news that Henry J. Kaiser is going to make automobiles in his West Coast plants (BW–Aug.4'45,p26). There will be a real threat to C.I.O. if shifts of this type become common.

Except for Kaiser's steel mill in Fontana, Calif., his operations are under closed shop, A.F.L. contracts. If he becomes, as he intends, a large-scale auto manufacturer, he will willy-nilly make the A.F.L. a large factor in auto labor–today one of the C.I.O.'s most important preserves.

Lobbying

Paul V. McNutt, chairman of the War Manpower Commission, who looks forward to returning to his job as Federal Security Administrator when his commission's work is finished, is quietly lobbying against Secretary of Labor Lewis B. Schwellenbach's program to reorganize the Dept. of Labor because that would bring the U. S. Employment Service into Schwellenbach's department.

Because USES offices function as receivers of unemployment compensation claims, the agency has been an integral branch of the Social Security Board over which McNutt presides as Security Administrator. He is, of course, reluctant to lose this important area of jurisdiction. His announced reason for opposing the transfer of USES is that some of the agency's most important work is serving employers and that the Dept. of Labor is an advocate of labor.

"Union-Busting"

The fact that the National War Labor Board's new appropriation carries an amendment barring the board from handling cases involving workers who pack, can, and transport agricultural products has been generally overlooked. The only public statement on its importance was made by Sen. Wayne Morse (R., Ore.) who called it "the first great move in a union-busting program in America." Morse, a former public member of NWLB, was expressing the board's own sentiments.

Many observers consider the amendment a strike breeder. The workers involved are entitled, under the Wagner act, to organize and bargain collectively. Unable to go before NWLB, they can now do nothing but strike if unresolvable issues develop in employer relations.

Alabama Siege

Birmingham newspapers u able to publish as I.T.U. mak that city a testing ground for new contract demands.

Continued refusal of the Inter tional Typographical Union (A.F.L.) recognize authority of the National W Labor Board (BW–Jul.21'45,p96) th week kept residents of Birmingha Ala., news-hungry for the fourth we and had newspaper publishers in ma other cities in suspense as I.T.U. co tract negotiations were held up.

• **Many Areas Affected**–I.T.U.'s cha lenge of NWLB–which also present involves newspapers in Bayonne a Jersey City, N. J., and Ft. Wayne, In –now apparently has centered on thr Birmingham dailies, two under co ownership and the other a Scripp Howard chain newspaper. The issu however, affects numerous other citi failure to settle it, I.T.U. has warne may lead to an epidemic of strik throughout the country as present co tracts end.

The question, fundamentally, whether new contracts shall incorpora I.T.U. general laws covering workin conditions, and exempt them from a bitration.

• **Bylaws the Issue**–NWLB, whose a was invoked by publishers, has declare that I.T.U. may not withdraw certai issues–in this case its bylaws–fro collective bargaining and by unilater action force them into contracts. Th decision on July 14 led to a flat brea between I.T.U. and NWLB, with th union terming it a "brazen and illeg declaration." Exemption of its bylaw from arbitration has been accepted b publishers since Jan. 1, 1902, the m ion argues.

Last week NWLB addressed a ne back-to-work order to Birmingha I.T.U. composing room employees wh went on strike July 12. It warned th even if the strike forces publishers t agree to I.T.U. demands, the board w not approve any contract incorporatin them since such an agreement woul be, under the July 14 NWLB sanctio ruling, a violation of public policy an the National Labor Disputes Act. Mor over, NWLB pointed out, strikers ar jeopardizing possible retroactive pay ad justments.

• **Breach Widened**–The warning serve only to add to I.T.U. complaints again the board; if anything it was a wedg forcing strikers and publishers furth apart.

As far as I.T.U. is concerned, there

Finish the Fight — with War Bonds

Peacemakers

eace in the Pacific can be achieved only one way—by the unconditional rrender of Japan's military masters. To shorten the road to victory, our aders foresaw that we must do more an reconquer territory yard by yard d island by island. *We must knock t the enemy's ability to make war.* nd to carry out that strategy they ose the Boeing B-29 as our major eapon.

Built, tested and flown into combat der the terrific pressure of global r, the Superfortresses are doing all t was expected of them and more.

They have enabled us to reduce American casualties and save precious months in striking enemy war production, because they are the only aircraft in the world that can cover the vast distances from bases in the Marianas.

In early operations before present island bases were secured, they transported their own supplies over the "Hump" from India into China. They have not only reduced the output of Japan's war industries by the steadily mounting tempo of their bombing but have taken a huge toll of the fighter planes sent against them. And they have tightened the blockade on enemy ports by sowing mines.

The versatile efficiency of the Superforts reflects Boeing's unparalleled experience in designing and building four-engine aircraft, and it forecasts the same qualities in the great Boeing planes of the future.

• • •

The performance of the B-29 *stems directly from Boeing principles of research, design, engineering and manufacture. After victory, as today, you can count on any airplane "Built by Boeing" to lead the way.*

DESIGNERS OF THE B-29 SUPERFORTRESS • THE FLYING FORTRESS • THE NEW STRATOCRUISER
THE KAYDET TRAINER • THE STRATOLINER • PAN AMERICAN CLIPPERS

BOEING

How will your new pavements, your proposed factory, needed public building, or your new home rate in these particulars?

- **Strength—Durability**
- **Appearance**
- **Construction Economy**
- **Cost to Maintain**
- **Estimated Useful Life**
- **Annual Cost**

They will rate high if they are built of concrete, because concrete construction:

- **Is Strong and Rigid**
- **Attractive in Appearance**
- **Economical in First Cost**
- **Has Long Service Life**
- **Is Economical to Maintain**
- **Gives *Low Annual Cost*—The True Measure of Economy in Construction**

We will gladly assist your engineers or architects to take full advantage of the economies offered by concrete construction.

PORTLAND CEMENT ASSOCIATION
Dept. A8b-12, 33 W. Grand Ave., Chicago 10, Ill.

A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work

BUY•AND KEEP MORE WAR BONDS

no urgency about ending the strike. Of about 110 printers remaining away from jobs on the three papers, 8[illegible] either have gone to new jobs outside the Birmingham area or have been absorbed in other print shops in the city. Others are receiving strike benefits from I.T.U. There is no mass idleness and pressure to give in to worry I.T.U. leaders.

• **Long Siege Expected**—Caught in the middle between I.T.U. and NWLB, publishers have coated machines with oil and shrouded them for a long siege. Editorial and other departments are being maintained fully staffed, and employees are reporting daily to sit through their shifts.

One bright spot for publishers is that newsprint continues to pile up. Advertising revenue lost in the current shutdown may be regained in bigger papers later.

WAGE TAX PROTESTED

Since V-E Day workers in war industry have worked off wartime tensions by strikes over a wide variety of real or fancied provocations—many of which hardly would have attracted passing notice of workers a few months ago. This week some 1,000 Philadelphia Navy Yard employees found something new to strike about—a city payroll tax amounting to 1% of earnings.

Originally set as a strike to continue until enforcement of the tax was relaxed, the demonstration ended as a one-day stay-away-from-the-job protest by 700 New Jersey residents and 300 other Navy Yard workers from outside Philadelphia.

The Philadelphia tax is levied against all salaries and wages earned in the city regardless of the place of residence of the wage earner (BW—Jan.13'45,p48) and on the pay of Philadelphians employed outside the city. Nothing new it has been collected regularly in the past from thousands who commute to jobs in Philadelphia business establishments.

The story was different recently when a drive was started to collect the levy from shipyard workers who make the cross-river trip from Camden, N. J. Noncompliance brought arrests; the arrests resulted in mass meetings and finally the strike call despite admonition from A.F.L., C.I.O., and Camden City authorities.

IN BIRTHDAY SUITS

When the first 69 of 400 new motor coaches recently came to the Los Angeles Transit Lines, they were rolled out of railroad cars and immediately driven to pick up waiting passengers, in their brown primer paint. Later, the

ill be decorated in yellow, green, hite.

The prompt use had public relations alue. The company's patrons have ffered hardships in war traffic, and the rival of the unpainted buses was sible promise of better days to come— $10,000,000 postwar modernization ogram which will bring new buses and rs and a modern plant.

HITE-COLLAR VOTE

Climaxing a long-pending dispute er an incentive pay plan for salaried orkers at Westinghouse Electric Corp. ants, a strike vote of 12,000 salaried orkers—those in white-collar, engineer- g, and technical jobs—in eleven West- ghouse units has been asked by the deration of Westinghouse Independ- t Salaried Unions (independent) der provisions of the Connally-Smith ar Labor Disputes Act.

Under normal procedure the vote ll be held in 30 days at East Pitts- rgh, Pittsburgh, Derry and Sharon, , Baltimore, Md., East Springfield, ass., Cleveland, Cincinnati, and ewark. Federation units representing 00 salaried workers at Buffalo and na, Ohio, are considering joining the ike vote.

Salaried workers, represented by the deration which is headed by Leo Bollens (BW—May19'45,p106), are king wage parity with the company's urly paid production workers. This be attained, the union says, by an entive plan which has been hanging since August, 1943, and which uld compensate salaried employees increased production during war- e. On May 5 of this year a hearing cer named by the National War bor Board recommended that NWLB the union down on its incentive n demand after Westinghouse denied hearings that there has been any in- ase in productivity of salaried workers.

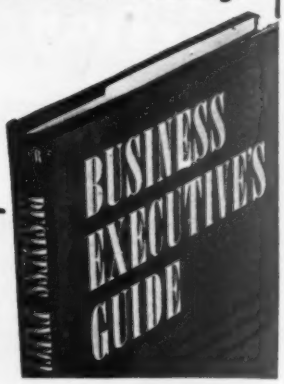
.O. GETS LABOR POST

The Congress of Industrial Organ- tions, long envious of the fact that niel W. Tracy of the American Fed- tion of Labor was ensconced in a tegic post as first assistant secretary the Dept. of Labor, finally was suc- sful last week in placing a C.I.O. n, John W. Gibson, as a special as- ant in the department.

Gibson, former president of the chigan C.I.O. Council, was slated such a job before the death of Presi- t Roosevelt resulted in a reshuffling the cabinet and the substitution of vis B. Schwellenbach for Frances kins as secretary. Then when it e to picking a second assistant sec-

NOW—
the profit tool for which you have been waiting!

a practical guide to money-making, cost-saving MANAGEMENT PRACTICE AND CONTROL



Here is an amazing collection of check lists that tell you clearly, quickly, completely, what you need to know—what you must do—the possible profit leaks to watch—to make sure everything is done, and done right, in handling any of a vast range of organizational, financial, tax, and management problems. Turn to this book with a new management problem or an old one. It should pay for itself many times over in giving you sure guidance, preventing missteps, showing you many ways of improving practices and protecting profits.

Just Published

BUSINESS EXECUTIVE'S GUIDE

By J. K. LASSER

C. P. A. in New York, New Jersey and California
Chairman, Institute of Federal Taxation, N. Y. U.

252 pages, 5½ x 8¼, $3.00

This book covers a wide range of problems—some large, some small, but all with vital effect upon your profits. Here are check lists on many management concerns, from those involved in the setting-up, buying, or selling of a business, to the "what-to-do" of filing, buying, printing, or collecting an account —carefully compiled to relieve the business man of reliance on his memory or hunches—freeing his time, effort, and imagination for devotion to more creative aspects of his business.

How many loopholes for escaping profits are there in YOUR business?

Take your office paper work, or your credit practices—are you sure that there aren't a number of points where profits are slipping through your fingers? What about problems of larger scope—or organizing, or reorganizing—of tax, accounting, or budgeting set-ups? Are you sure they aren't unwieldy, misproportioned perhaps, a retarding, profit-stifling frame for your business departments? To bring together in one volume a quick, concise summary of the *essential elements* in many avenues of profitable management is the purpose of this book. Its check lists show what you need to know, what you must do, the possible profit leaks to watch, in the most practical form for the busy business reader.

43 sections provide scores of practical check lists to help you improve organization and practices, including:

- **—What to Think About Before You Start a Business**
- **—What to Think About When You Liquidate or Merge a Business**
- **—What to Study If You Are Buying Another Business**
- **—How to Organize for Good Employee Relations**
- **—How to Finance Current Operations If a Bank Loan Is Not Advisable**
- **—How to Design an Efficient Cost System**
- **—How to Control Salesmen's Expenses**
- **—How to Budget for Profit**
- **—How to Collect Delinquent Accounts**
- **—How to Check Your Insurance**
- **—How to Cut Your Printing, Paper, and Engraving Costs**
- **—How to Design Your Business Forms**
- **—How to Save Office Cost or Other Expenses and Avoid Waste**

● Here, simply, are the GUIDEPOSTS OF GOOD MANAGEMENT—the very points that every business man checks over in his mind, when faced with a problem or decision . . . *but with this distinction*—these check lists do the thinking job for you — are clear, complete, ready for instant use.

You know the type of practical, streamlined guides J. K. Lasser has given both individuals and business concerns, for handling their tax problems, accounting procedures, etc. Now, see the well-known Lasser treatment, of concise, time-saving, fact-studded check lists applied to an all-around general business guide. Check some immediate problems of your own. If this book discloses but a single loophole for escaping profits in your set-up or operations, it will have paid for itself many times over. Send the coupon today!

McGRAW-HILL EXAMINATION COUPON

McGraw-Hill Book Co., 330 W. 42 St., New York 18, N. Y.

Send me **Lasser's BUSINESS EXECUTIVE'S GUIDE** for 10 days examination on approval. In 10 days I will send $3.00, plus few cents postage, or return book postpaid. (Postage paid on cash orders.)

Name .....

Address .....

City and State .....

Company .....

Position .....BW 8-11-45

WHITING CRANE DESIGN has One Objective...

MATERIALS-HANDLING ECONOMY

Although the application of modern methods in materials-moving results in increased production, improved working conditions, and release of manpower for other utilization, the *first* objective in Whiting Crane design is economy.

A Whiting Crane is designed for specific job performance. It handles materials speedily, smoothly, and economically. It has long life, moderate first cost, low operating and maintenance costs.

Sixty years of specialization in the design and building of materials-moving equipment singularly fits Whiting engineers for analyzing individual plant requirements. Their recommendations will assure a high degree of materials-handling economy. For a consultation write Whiting Corporation, 15661 Lathrop Avenue, Harvey, Illinois.

BUILDERS OF QUALITY CRANES FOR OVER 60 YEARS

Dependable · · Quiet-Running · · Durable

WHITING

Overhead Traveling CRANES

Offices in Chicago, Cincinnati, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, St. Louis, and Washington, D. C. Agents in other principal cities. Canadian Subsidiary: Whiting Corporation (Canada) Ltd., Toronto, Ontario.

retary, Schwellenbach upset C.I.O. applecart by passing over Gibson name Carl Moran, two-term Dem cratic congressman from Maine.

But this week, accounts were squa when Schwellenbach named two n special assistants. One was Gibson, a the other was Albert Abrahamson, f mer assistant executive of the W Refugee Board. Their designation is tended by Schwellenbach to speed organization—expected to result bringing most labor agencies now o side the Dept. of Labor into the Schw lenbach orbit (BW—Jun.30'45,p16).

Need for the special assistants to reorganization work probably will over by 1946, but it is unlikely th their jobs will run out. Schwell bach's plans call for congressional tion in setting up the post of und secretary of labor and three assist secretaryships.

For Ex-Soldiers

English law provides f return to old jobs, but man wi more seniority than a vetera can't be displaced in process.

England, like the United States, h found that the return of veterans civilian jobs poses problems of relati seniority. But, unlike this country, which confusion has been created conflicting interpretations of the Sele tive Service Act, England has work out a solution to the touchy situation.

• **Last Year's Law**—Thousands of v erans are being placed in their form jobs in England through a 1944 l which returns servicemen to form jobs but provides specifically that employee having more seniority than t veteran (counting seniority allowed time in the armed forces) shall be d placed to make room for him.

Local re-employment boards are up by law throughout England. E ployers, employees faced with displa ment, veterans seeking jobs, or unio involved may appeal for guidance settlement of disputes. Decisions the local boards may be appealed by party to an impartial umpire under English law.

• **Important Differences**—The Engli plan differs in two important ways fr the American Selective Service A (1) The U. S. law's administrators i terpret it as giving veterans superseni ity—or the right to a job regardless the seniority of any other employ (2) under the U. S. plan local (selecti service) boards are set up solely as rep sentatives of veterans.

HE WAR AND BUSINESS ABROAD

INESS WEEK
UST 11, 1945

The war with Japan can end any day. Not even Nipponese fanaticism can hold out for long against the potential atomic frankenstein and the fury of the Allies' massed forces to which Russia's full war strength has now been added.

•

It is obvious that the Allies' daring squeeze play on Tokyo has been developing for weeks.

Moscow was instructed early in the summer to sound Tokyo out on surrender terms.

Stalin brought them to Potsdam, and they were unsatisfactory to the Big Three.

President Truman then broadcast the U. S.-Anglo-Chinese ultimatum. Tokyo rejected it abruptly.

Only then did Washington decide to unleash one of the war's greatest secrets—the atomic bomb (page 15).

Finally Moscow, already secretly committed to join in the war, agreed to complete the psychological putsch on Tokyo by its declaration.

Anything can happen now, but it is clear that if Japan chooses any course short of speedy and complete surrender, **Washington is prepared to proceed with the systematic wiping out of Japan's cities with atomic bombs and that Russia will eventually overrun the Manchurian redoubt.**

•

Washington's confidence that the Japanese will not stand up under this terrifying war of nerves is nowhere more clear than at the White House.

Frantic efforts to speed reconversion plans have been under way since Truman, as his plan was cleared by the Big Three, called the turn from Potsdam (page 120).

First person to greet the President on his arrival from Europe was reconversion director John W. Snyder.

And, obviously because it is expected to be the deciding factor precipitating Tokyo's capitulation, announcement of the Soviet Union's entry into the war was not made until the President was back at the helm in Washington.

•

But far more than the domestic reconversion problem is affected by this drastic change in the war outlook.

Even before the Potsdam principles can be translated into detailed treaties dealing with the problems of Europe (page 19), the Allies will be confronted with the knotty issues of a peace settlement for the Far East.

You can look for the creation, almost immediately, of a Far Eastern Advisory Commission of which Britain, France, China, Russia, and the U. S. will be members.

But there is no doubt that it will be Moscow and Washington which will have the most to say in determining the postwar pattern for the Pacific.

•

The blueprint for a new world order that comes from Potsdam indicates clearly what is in store for Japan and for neighboring countries in the Far East.

Germany, the world's second industrial nation, is being systematically and ruthlessly reduced to a semiagricultural land.

Careful surveys after V-E Day of bomb damage in the Reich indicate that only 15% of the country's industrial equipment had been destroyed by Allied bombs.

Potsdam's rigorous deindustrialization program undoubtedly will de-

mand that Germany be stripped of another 20% of its industries in order to lower the living standard to the average for Europe (page 21).

This should be a bitter warning to Tokyo that deindustrialization resulting from a showdown peace can be far more devastating even than the ruin brought about by a protracted war on the land or from the air.

•

Nor should Tokyo overlook the redrawing of world trade channels decreed in the Potsdam plan for the bitter-enders in Berlin.

Economic Europe will no longer revolve around a tightly organized and highly industrialized Germany.

Germans will no longer be able to buy their food supplies from Holland, Denmark, and the backward rural zones of eastern Europe and the Balkans.

To the Japanese—whose fruit and sugar come from Formosa, iron ore from the Philippines and Malaya, oil from Sakhalin and the Netherlands Indies, and coal from China and Manchuria—this is another warning that early surrender would pay them better than a military showdown with the same Allies who wrote the terms for Germany.

•

To cope with the mass of diplomatic developments which will arise almost immediately in connection with the Council of Foreign Ministers and their handling of the string of treaties which must follow Potsdam, and to prepare for the peace conference in Tokyo. **President Truman will announce, almost any day, drastic changes in State Dept. personnel.**

Undersecretary Grew and Assistant Secretaries Rockefeller, MacLeish, and Holmes are slated to be replaced.

In the shakeup, William Clayton will emerge as one of the most important figures in U. S. foreign policy. He may even become undersecretary, though pressure from the career diplomats may prevent his assignment to that post.

•

Closest to Secretary Byrnes in the revitalized State Dept. setup will be Ben Cohen, of the famous Corcoran-Cohen team.

Since the Council of Foreign Ministers is likely to convene almost continuously after Sept. 1 when it commences working out the details of individual treaties prescribed by Potsdam, Byrnes will be forced to name a deputy for all but key meetings.

Though Clayton has been recommended for this job, it is more likely to go to Cohen or some fresh appointee because of Clayton's key role in the formation of **a new streamlined economic policy for the U. S. commensurate with its postwar role of world leader.**

•

Clayton's plans for this broad new economic program began to unfold this week.

From London, where major commercial issues are already being explored with Britain's new Labor government (BW—Aug.4'45,p15), he announced that the long-planned international commercial policy conference will be held in the U. S. in March or April of next year.

Heading the agenda are the issues of a closed sterling bloc (BW—Jul.7 '45,p113), the question of U. S. credits for Britain, and the whole problem of bulk buying and the maintenance of wartime trade controls on which the Labor crowd is expected to be sticky.

Contents copyrighted under the general copyright on the Aug. 11, 1945, issue—Business Week, 330 W. 42nd St., New York, N. Y.

U.S.S.R. Speeds Reconstruction

Although emphasis is placed on rehabilitation of heavy industry, many plants are turning out civilian goods under incentive plan. Improved transportation facilities get top ranking.

MOSCOW—With the end of war in Europe Moscow has put full steam behind the country's reconstruction program, which was started in each new territory as it was freed from German control.

Industrialization Speeded—During the war, to provide munitions for the Red Army, dormant or lagging industrialization plans were speedily implemented—new steel capacity, power facilities, and fabricating facilities were installed.

After V-E Day came demobilization of the older classes of the Red Army, and their return to peaceful pursuits in industry and agriculture.

Simultaneously, Moscow proceeded with reconversion plans to hasten the day Russians had awaited for many years, when consumer goods in quantity would be available in stores across the nation.

In the last few weeks the results of this planning are being revealed in detailed reconversion programs for individual industries.

For Civilians—The three largest automobile plants have turned from the production of tanks to civilian cars and trucks.

An aircraft plant which produced 15,000 fighter planes during the war has started to turn out the first of 100,000 bicycles.

The Stalin ordnance works, which produced nearly 100,000 guns during the war, is now at work on equipment for the oil industry.

One of the largest Urals tank plants, with a war output of 35,000 units, is beginning production of thousands of wheels and other railway equipment.

Another tank plant in the Urals which provided a large part of four blast furnaces built during the war has turned now to full-time production of equipment for the iron and steel industry.

In addition, hundreds of smaller manufacturing facilities converted to military use are returning to the production of peacetime products.

New Auto Designs—Three prewar auto plants at Moscow, Yaroslavl, and Gorki are making trucks, a seven-passenger limousine, and a multipassenger bus. These are claimed to be new models, comparing favorably with recent U.S. types.

The auto plants completed during the war at Ulyanovsk, Chelyabinsk, Miass, and Shadrinsk are expanding and work has commenced on a 500-acre site for a new auto plant at Dnepropetrovsk in the Ukraine.

Reconversion plans are closely meshed with the general plans for industrialization which simply received an impetus from the termination of war in Europe. As contracts and subcontracts reaching into nearly every plant in the country are dropped, they are replaced by new orders for goods for peacetime industry and civilian welfare.

• **Heavy Industry First**—Of special note, however, is the return at the outset to the emphasis on heavy industry which characterized prewar Soviet planning. Thus far, coal, electric power, and metallurgical industries are receiving priority attention and are being expanded and re-equipped.

This is to be the base for effective volume production of civilian goods and is a continuation of prewar plans. It belies the popular assumption that political necessity would compel immediate attention to urgent consumption needs of the people to the detriment of industrial reconstruction and development.

The Soviets, who measure advances in percentage increases over past performances of undisclosed magnitudes, claim that steel production in June was 50% above June, 1944. That month in turn was substantially above June, 1943, which was about one-third higher than 1941. Whatever these figures mean, the level of production—probably around 22,000,000 tons annually—is scheduled to be vastly extended by present undertakings.

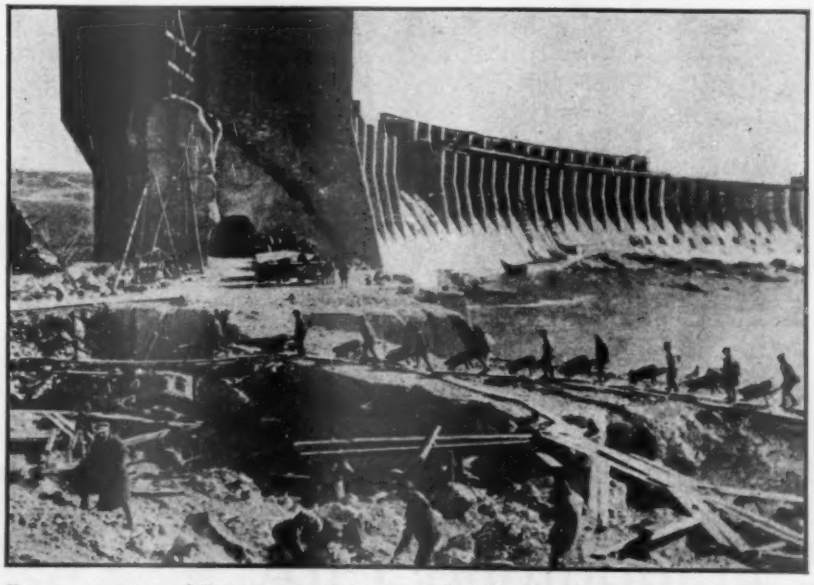
• **More Steel**—The State Planning Commission has approved and the Commissariat of Heavy Industry has started work on construction of five of eight new blooming mills in the Ukraine, to be completed by 1947.

Each mill will consist of 30 complex machines, with 65 motors turning up 11,000 hp. Supplying the first five mills will require round-the-clock operation of ten blast and 150 openhearth furnaces. The five mills will keep 25 rolling mills busy. In all, 25 plants have been converted from war output to work on equipment for these steel mills.

Meanwhile, reconstruction of flattened iron and steel works in the Donets and Dnepr basins—at Mariupol, Makeevka, Zaporozhe, Dnepropetrovsk, and Stalino—has progressed so rapidly that these combines are expected to be restored by the end of this year. In the Urals, expansion of the Magnitogorsk, Chelyabinsk, Chusovsk, and Tagil continues.

• **Output Pushed Up**—In one of the freak developments, the partially demobilized Kirov plant in Leningrad is again at work full blast, while the Kirov plant in the Urals—based on machinery evacuated from Leningrad—is producing 4½ times the 1941 rate of the mother plant.

In the Donbas, plans call for doubling the 1941 coal output in ten years. But



Reconstruction of Dneprostroi Dam, wrecked first by the retreating Russians, then by the Germans, has a top priority on the agenda of Soviet rebuilding.

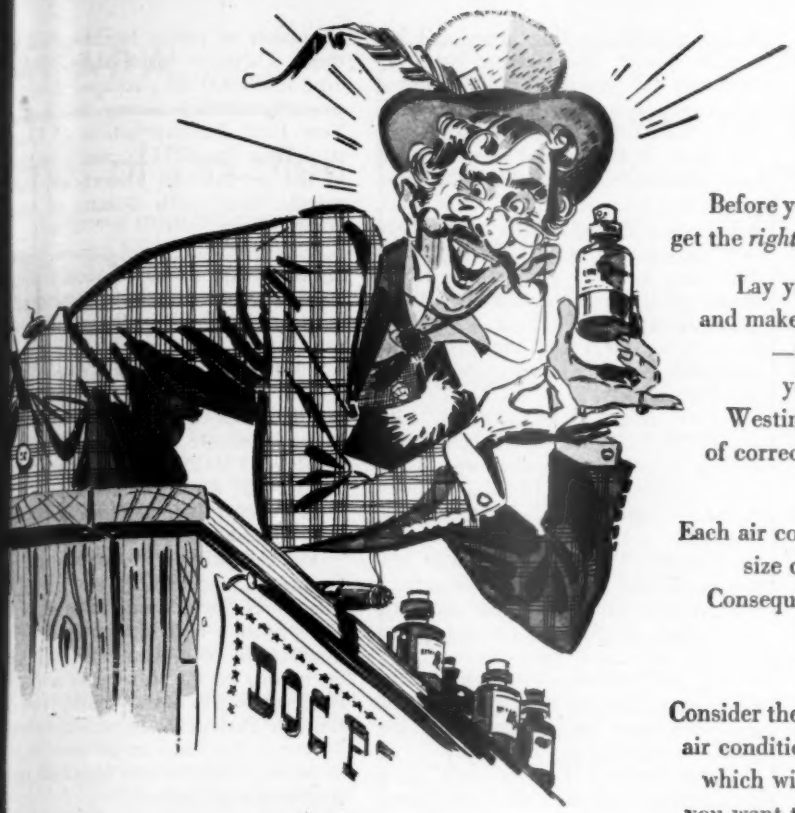
it should not be overlooked that 1941 output in both Leningrad and the Donbas suffered interruption by the invasion so that 1941 is not a fair base year.

Donbas reconstruction plans are for further mechanization of cutting, loading, and hauling operations to match the high level in American mines. New mines are to be deeper (around 3,000 ft. instead of 1,000 ft. to 1,500 ft.) and experiments with hollow concrete pit props to replace timber props are being made.

• **Many Homes Rebuilt**—Reconstruction of housing continues apace with rebuilding of industry. Figures for the Russian Federated Soviet Socialist R public and the Ukrainian S.S.R. ha just recently been made available.

An estimated 1,000,000 peasa homes in the R.S.F.S.R. were destroye and since the tide turned in 1943 som 536,000 have been rebuilt from th foundations. Moscow province su

The first part of a Soviet 15-year electrification plan for railroads is under way. In addition to 3,600 mi. of main line that is to be electrified during the next five years, local transport in ten cities will be further electrified.



BROTHER... you can't buy it this way!

Before you start figuring on air conditioning—get the *right* kind of advice from *qualified* experts!

Lay your plans for *correct* air conditioning, and make sure your investment will repay you—dollar for dollar—with the "remedy" you expect. By *correct* air conditioning Westinghouse means the scientific blending of correct temperature, humidity, circulation, ventilation and air cleanliness.

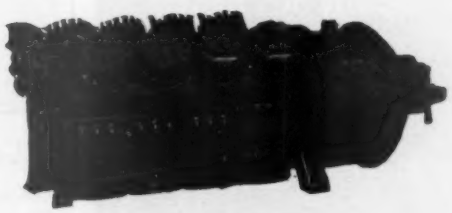
Each air conditioning installation—regardless of size or purpose—is an *individual* problem. Consequently, Westinghouse air conditioning equipment is engineered and built to conform with this principle.

Consider these advantages of Westinghouse *correct* air conditioning: *First*, an air conditioning plant which will provide exactly the conditioned air you want to "live" with. *Second*, an installation which can be depended upon to give continued trouble-free, economical service. *Third*, correctly engineered equipment resulting from Westinghouse know-how.

If you're thinking about air conditioning, send for your copy of "How to Plan Correct Air Conditioning." Call your nearest Westinghouse Office, or write Westinghouse Electric Corporation, 150 Pacific Avenue, Jersey City 4, New Jersey.

The Heart of Correct Air Conditioning

WESTINGHOUSE HERMETICALLY-SEALED COMPRESSOR

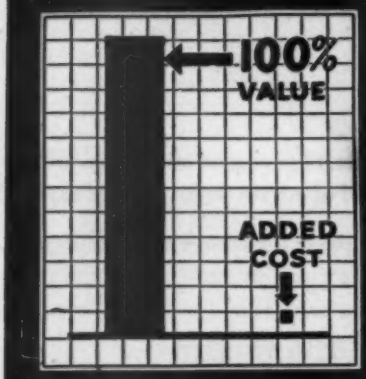


The entire mechanism of the Westinghouse Hermetically Sealed Compressor—including its motor—is sealed gas-tight. This feature means sealed-in *power and* sealed-out *trouble . . . has been* service-proved *in thousands of Westinghouse installations. Compact and lightweight for easy installation. Low operating costs.*

Westinghouse presents John Charles Thomas—Sunday, 2:30 E.W.T., N.B.C. Tune in Ted Malone, Monday through Friday, 11:45 A.M., E.W.T., Blue Network.

Westinghouse CORRECT **Air Conditioning**

PLANTS IN 25 CITIES OFFICES EVERYWHERE



So Much

for so Little

Business records last longer and withstand hard use better when entrusted to L. L. Brown *record* papers—the Nation's standard for service, value and economy since 1849. Yet these superior papers add only *negligibly* (if at all) to accounting costs. For *efficient* accounting records, ask your printer for the following

L.L.BROWN
LEDGER PAPERS

★L. L. BROWN'S LINEN LEDGER
100% New White Linen & Cotton Fibres

★ADVANCE LINEN LEDGER
100% New White Cotton Fibres

FORWARD LINEN LEDGER
100% New Cotton Fibres

L. L. BROWN'S FINE
85% New Cotton Fibres

GREYLOCK LINEN LEDGER
75% New Cotton Fibres

ESCORT LEDGER & MACHINE POSTING
50% New Cotton Fibres

★ Permanent Papers

L. L. BROWN PAPER CO.

ADAMS MASS.

tained 42,000 dwelling losses and has rebuilt 30,000. The Ukraine lost 250,000 and has rebuilt 127,000 homes. Traveling squads of bricklayers and carpenters are at work in towns large and small. At the present rate, however, complete reconstruction of homes and public buildings will take several years.

• **Incentive Plan**—Civilian needs have not been totally neglected. Incentives have been given to production of consumer goods, and expanding supplies have already resulted in a sharp drop in prices on the "open" markets (where prices are not fixed) as well as in government outlets.

Soviet industrial cooperatives, with more than 1,000,000 members, have returned to civilian production. Their 1945 program calls for 10,000,000 shoes, 4,500,000 felt boots, and 17,500,000 stockings.

Moscow's Trekhgornaya textile mill has abandoned uniforms and is making civilian apparel. Pots, pans, crockery, and cutlery—practically unavailable during the war—are reappearing.

The food industry—centered in the devastated Ukraine—is being rebuilt and expanded, and vast increases over last year's production are on the way.

• **Power Projects**—Parallel with these reconversion and reconstruction plans, expansion of power facilities will c tinue. Capacity installed in 1944, over 1,500,000 kw., compares with amount installed during the first F Year Plan. Reconstruction of Dnep stroi Dam (page 113), and complet of the great Volga project, are on agenda along with dozens of sma power plants.

Transportation, as a critical factor industrial expansion, will receive prim attention, and the electrification of railways rates high in these plans (m page 114).

• **Substitute for Double Track**—Wit 15-year electrification plan for 12,0 mi. of railways, the Soviets are alre at work on the first five-year segm involving 3,600 mi. of key lines carry the highest tonnage of freight. Urb lines in ten principal cities will be f ther electrified.

The substitution of electrification double-tracking is contemplated some lines. Soviet economists figure t electrification costs only about 50% much as double-tracking and intensifi operations on the single line will qui ly amortize the cost. In addition, th estimate that steam locomotives requ 2½ times the amount of coal requi to power electric trains supplied from central power station.

ALL-ALUMINUM AND PORTABLE

Tossing its hat into Canada's housing ring, Faircraft Industries has opened display near Montreal a factory-built aluminum house (above) that comes package and unfolds on hinges on the home site (BW—Jul.14'45,p44). signed to last a lifetime, the 30x25-ft., one-story dwelling is well insulat against the rigors of Canadian weather. Its four rooms and bath may set up over a cellar, on concrete walls, or posts. Built on the precision assemb line methods that Canada's Fairchild Aircraft—Faircraft's sire—has emplo in building planes for the U. S. Navy, the cottage will sell for $3,300.

ANADA

ones of Taxation

Ottawa informs provinces terms under which it hopes keep centralized control over e main sources of revenue.

OTTAWA—The Dominion government, in a bold move to maintain wartime centralization of the main sources of tax revenue, made the following offers to the provinces at the National Conference on Reconstruction this week:

(1) To assume full responsibility for unemployment assistance.

(2) To assume the full cost of old-age pensions above 70, and half the cost of old-age pensions between 65 and 70 years.

(3) To make grants covering roughly three-fifths of the cost of maintaining health insurance.

(4) To continue the principle of the present tax agreements by paying annual subsidies to the provinces at a rate not to fall below $12 per capita but to rise proportionately as the gross national income exceeds that of 1941, which is taken as the base.

Quid Pro Quo—In return for this substantial financial assistance to the nine provincial governments, the Dominion government asked the provinces to forego the imposition of personal income taxes, corporation taxes, and succession duties, leaving to the Dominion exclusive access to these tax sources. There was one exception to the federal government's jurisdiction in direct tax fields. In the case of profits from mining and logging operations, which are related so closely to the provincial natural resources and to the way in which the depletion of assets is managed, the province would be allowed to tax without restriction.

The proposals had as their main objective policies which will permit private enterprise to play its full part in maintaining employment and national income after the war.

International Angle—The national government pointed out to the conference that it needed exclusive jurisdiction over taxes on incomes, corporations, and estates to protect, among other reasons, the interest of Canadians abroad. It pointed out that with divided authority it was difficult to conclude reciprocal agreements with other countries which would prevent double taxation of Canadian incomes.

ADVERTISERS IN THIS ISSUE

Business Week—August 11, 1945

ACME ALUMINUM ALLOYS, INC. 36
Agency—Keelor & Stites Co.
THE ADDRESSOGRAPH-MULTIGRAPH CORP. 109
Agency—The Griswold-Eshleman Co.
ALLEN CALCULATORS, INC. 102
Agency—Wesley Aves & Assoc.
ALLISON DIV., GENERAL MOTORS CORP. 30
Agency—Arthur Kudner, Inc.
AMERICAN AIR FILTER CO. 51
Agency—Farson & Huff
AMERICAN ENGINEERING CO. 45
Agency—John Falkner Arndt & Co.
AMERICAN FELT CO. 100
Agency—G. M. Basford Co.
AMERICAN TELEPHONE & TELEGRAPH CO. 14
Agency—N. W. Ayer & Son, Inc.
AMERICAN TUBE BENDING CO., INC. 103
Agency—Albert Woodley Co.
ANACONDA WIRE & CABLE CO. 56
Agency—Ivey & Ellington, Inc.
THE AUTOCAR CO. 91
Agency—Gray & Rogers
BALDWIN LOCOMOTIVE WORKS, INC. 82
Agency—Ketchum, MacLeod & Grove, Inc.
BANKERS LIFE CO. 97
Agency—MacFarland, Aveyard & Co.
BANK OF AMERICA 76
Agency—Chas. R. Stuart, Inc.
BANTAM BEARINGS DIVISION, THE TORRINGTON CO. 87
Agency—Hazard Advertising Company
BETTER HOMES & GARDENS 42
Agency—Arthur Kudner, Inc.
BLACK & DECKER MFG. CO. 77
Agency—VanSant, Dugdale & Co., Inc.
BOEING AIRPLANE CO. 105
Agency—N. W. Ayer & Son, Inc.
L. L. BROWN PAPER CO. 116
Agency—Cowan & Dengler, Inc.
BUNDY TUBING CO. 59
Agency—Brooke, Smith, French & Dorrance, Inc.
CAMPBELL, WYANT & CANNON FOUNDRY CO. 81
Agency—Behel, Waldie and Briggs
CAPPEL, MAC DONALD & CO. 83
Agency—Emery Adv. Co., Inc.
CHASE BRASS & COPPER CO. 24
Agency—Newell-Emmett Co.
CLARAGE FAN CO. 12
Agency—W. J. Williams Adv. Agency
COLUMBIA CHEMICAL DIV., PITTSBURGH PLATE GLASS CO. 50
Agency—Ketchum, MacLeod & Grove, Inc.
CONTAINER TESTING LABORATORIES, INC. 118
Agency—H. B. Humphrey, Inc.
COOPER-BESSEMER CORP. 43
Agency—The Griswold-Eshleman Co.
DAVIDSON MFG. CORP. 33
Agency—Almon, Brooks Wilder, Inc.
THE DELTA MFG. CO. 101
Agency—Hoffman & York
DESIGNERS FOR INDUSTRY, INC. 64
Agency—The Bayless-Kerr Co.
EASTMAN KODAK CO. 49
Agency—J. Walter Thompson Co.
THE ESCO MFG. CO. 74
Agency—Wheeler-Kight & Gainey, Inc.
ELECTRIC STORAGE BATTERY CO. 4
Agency—Geare-Marston, Inc.
ERIE RAILROAD CO. 72
Agency—The Griswold-Eshleman Co.
ETHYL CORP. 6
Agency—Batten, Barton, Durstine & Osborn, Inc.
FELT & TARRANT MFG. CO. 23
Agency—N. W. Ayer & Son, Inc.
FRICK CO. 52
Agency—Waynesboro Adv. Agency
FULTON SYLPHON CO. 47
Agency—J. Walter Thompson Co.
GENERAL ELECTRIC CO. 54
Agency—The Lloyd H. Hall Co.
GENERAL ELECTRIC CO. 29
Agency—Benton & Bowles
GENERAL ELECTRIC CO. 84
Agency—Newell-Emmett Co.
GENERAL MOTORS CORP. 37
Agency—Arthur Kudner, Inc.
THE GLOBE-WERNICKE CO. 41
Agency—Ruthrauff & Ryan, Inc.
THE B. F. GOODRICH CO. 1
Agency—The Griswold-Eshleman Co.
GOODYEAR TIRE & RUBBER CO., INC. ..60, 61
Agency—Arthur Kudner, Inc.
HALSEY, STUART & CO., INC. 74
Agency—J. Walter Thompson Co.
W. C. HAMILTON & SONS 38
Agency—Gray & Rogers
HEIN-WERNER MOTOR PARTS CORP. 34
Agency—Arthur R. Mogge, Inc.
HEPPENSTALL CO. 66
Agency—Ketchum, MacLeod & Grove, Inc.
HERCULES POWDER CO., INC. 92
Agency—Fuller & Smith & Ross Inc.
HUGHES-KEENAN CO. 78
Agency—Carr Liggett Adv. Agency
HYCAR CHEMICAL CO. 3
Agency—The Griswold-Eshleman Co.
INDUSTRIAL TAPE CORP. 55
Agency—Kenyon & Eckhardt, Inc.
INTERNATIONAL HARVESTER CO., INC. ... 53
Agency—Aubrey, Moore & Wallace, Inc.
INTERNATIONAL MINERALS & CHEMICAL CORP. 75
Agency—C. Franklin Brown & Co.
JOHNSON SERVICE CO. 65
Agency—K. E. Shepard—Adv.
C. WALKER JONES CO. 26
Agency—Gray & Rogers
KAUMAGRAPH CO. 118
Agency—Fox & Mackenzie
THE KELLY-SPRINGFIELD TIRE CO. 48
Agency—Compton Advertising, Inc.
LAVELLE AIRCRAFT CORP. 84
Agency—Broomfield-Podmore Co.
LIBBEY-OWENS-FORD GLASS CO. 95
Agency—Fuller & Smith & Ross Inc.
LYON METAL PRODUCTS, INC. 68
Agency—Evans Associates, Inc.
MANNING, MAXWELL AND MOORE, INC. 119
Agency—Briggs & Varley, Inc.
MARSH STENCIL MACHINE CO. 84
Agency—Krupnick & Assoc.
THE MAXIM SILENCER CO. 70
Agency—Edward W. Robotham Co.
McGRAW-HILL BOOK CO., INC. 107
McQUAY-NORRIS MFG. CO. 40
Agency—D'Arcy Adv. Co., Inc.
MERCURY MANUFACTURING COMPANY 8
Agency—O'Grady-Andersen
METROPOLITAN LIFE INSURANCE CO. ... 25
Agency—Young & Rubicam, Inc.
MONSANTO CHEMICAL CO. 46
Agency—Gardner Advertising Co.
MUEHLHAUSEN SPRING CORP. 34
Agency—Carter, Jones and Taylor
NEKOOSA-EDWARDS PAPER CO. 96
Agency—The Cramer-Krasselt Co.
THE NEW JERSEY ZINC CO. 11
THE OSBORN MFG. CO. 88
Agency—The Griswold-Eshleman Co.
JOHN OSTER MFG. CO. 64
Agency—Hoffman & York
PEERLESS PHOTO PRODUCTS, INC. 83
Agency—Williams & Saylor
PESCO PRODUCTS CO. 71
Agency—Fuller & Smith & Ross Inc.
PITNEY-BOWES, INC. 57
Agency—L. E. McGivena & Co., Inc.
PITTSBURGH CORNING CORP. 31
Agency—Batten, Barton, Durstine & Osborn, Inc.
PORTLAND CEMENT ASSOCIATION 106
Agency—Roche, Williams & Cleary, Inc.
RECONSTRUCTION FINANCE CORP. 89
Agency—Fuller & Smith & Ross Inc.
REMINGTON RAND, INC. 67
Agency—Leeford Adv. Agency, Inc.
REPUBLIC RUBBER DIV. LEE RUBBER & TIRE CORP. 2
Agency—Wearstler Advertising, Inc.
RUSTLESS IRON & STEEL CORP. 27
Agency—St. Georges & Keyes, Inc.
SANTA FE RAILWAY 39
Agency—Leo Burnett Co., Inc.
SEABOARD RAILWAY 28
Agency—The Caples Co.
SHELL OIL CO. ..... 3rd Cover
Agency—J. Walter Thompson Co.
SOCONY-VACUUM OIL CO., INC. ..2nd Cover
Agency—Compton Advertising, Inc.
SYLVANIA ELECTRIC PRODUCTS, INC. 79
Agency—Newell-Emmett Co.
THE TEXAS CO. 35
Agency—Newell-Emmett Co.
TODD CO., INC. 93
Agency—The Merrill Anderson Co.
THE TORRINGTON CO. 86
Agency—Hazard Advertising Company
UNITED CINEPHONE CORP. 90
Agency—Wilson & Haight, Inc. Adv.
U. S. STEEL CORP. 110
Agency—Batten, Barton, Durstine & Osborn, Inc.
WARREN WEBSTER & CO. 8
Agency—William Jenkins Adv.
THE WAYNE PUMP CO. 69
Agency—Bonsib Adv. Agency
THE WEATHERHEAD CO. ..... 4th Cover
Agency—Maxon, Inc.
WESTERN CARTRIDGE CO. 62
Agency—D'Arcy Adv. Co., Inc.
WESTINGHOUSE ELECTRIC CORP. 115
Agency—Fuller & Smith & Ross Inc.
WHITING CORP. 108
Agency—The Fensholt Co.
WORTHINGTON PUMP & MACHINERY CO. 85
Agency—James Thomas Chirurg Co.
WYANDOTTE CHEMICALS CORP. 99
Agency—N. W. Ayer & Son, Inc.
YORK SHIPLEY 102
Agency—Gray & Rogers

WHAT DOES 200 LBS. WEIGH?

Our business is measuring with scientific precision stresses applied to shipping containers. To insure exactness, the accuracy of the equipment is constantly checked by such instruments as the dead-weight tester shown above. If you have packing or shipping problems perhaps our laboratories can help you. *Remember, if it's worth making and shipping, it is worth packing right.*

CONTAINER TESTING LABORATORIES, INC.
NEW YORK • CHICAGO • SAN FRANCISCO

REMEMBER?

When elks' teeth dangled on heavy watch-chains, these signs attracted jewelers' customers. The name or trademark displayed on your products must be as effective. It must attract customers, protect your name, help repeat sales. Kaumagraph Dry Transfers* and Prestomarks, by the touch of a hot iron, will economically identify and help sell your goods. Send a sample of your product today to be marked experimentally.

*Reg. U. S. Pat. Off. "Kaumagraphs" are made only by Kaumagraph Company

Graphication Headquarters since 1902
KAUMAGRAPH

KAUMAGRAPH CO., 1310 POPLAR ST., WILMINGTON, DEL.
NEW YORK OFFICE • EMPIRE STATE BUILDING, N. Y. 1

THE MARKETS

(FINANCE SECTION—PAGE 7

Probability of an early end to the Japanese war, with industry's rapid emergence into the uncertainties of reconversion, was the whole story of the stock market this week. Russia's entry into Pacific hostilities simply emphasized what should have been clear in the minds of most investors and traders from the moment news of the first atomic bomb's falling on Japan was flashed on Monday morning.

• **When the Word Came**—Generally speaking, the market received the two dynamic pieces of news calmly. True, Russia's declaration of war (coming a moment after the close of trading on the New York Stock Exchange on Wednesday) caused some "nervous Nelly" selling and price declines among dually traded stocks in the San Francisco market.

Earlier in the week, however, Wall Street appeared to have given its appraisal of the immediate future. News of the atomic bomb caused no early price repercussions. Neither stock nor bond prices, in fact, showed any early inclinations to move one way or the other on Monday and the volume of stock trading that day proved the smallest reported by the Big Board in some eleven months.

• **Reflection**—Overnight consideration of the news, however, did cause some investors and traders to wonder if use of the new weapon might not bring the war to a sudden end that would immediately dump serious reconversion problems into the laps of many companies.

As a result, both stock and bond prices began to crack on Tuesday. On volume twice as large as that seen on Monday, many pivotal issues declined a point or two, or more, and only 94 of the 906 individual stocks traded that day were able to boast of gains when proceedings had ended.

• **No Real Pressure**—However, at no time was there any real selling pressure. Activity, moreover, failed to reach the million-share level, and many Street observers attribute Tuesday's weakness more to a dearth of bids than to any significant growth in liquidating programs touched off by the entrance of the atomic bomb, with all its potentialities, into the Pacific war picture.

On Wednesday, prices opened higher on fair volume. And, even though some of the early gains and the initial tone of trading soon faded quite badly in spots, a fair portion of some Tuesday losses was recovered before the Wednesday session had ended.

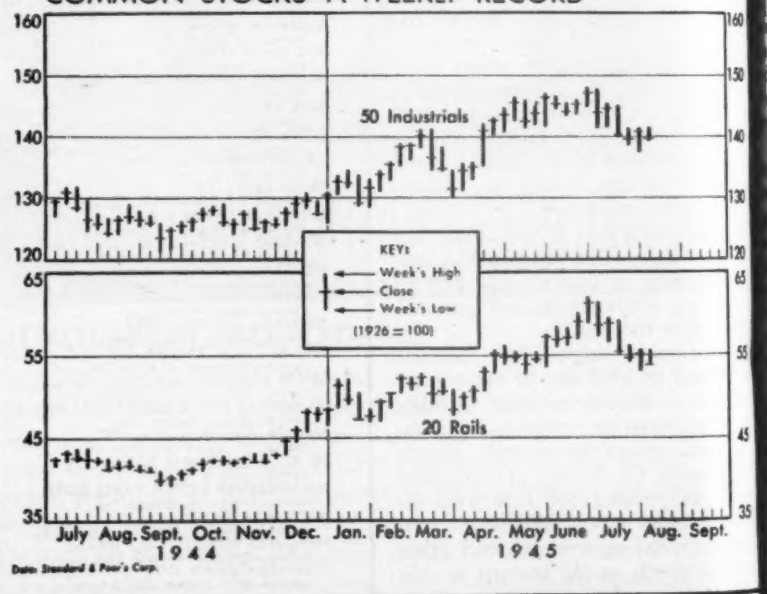
Whether this means that the stock market has all but discounted an early end to the war remains to be seen. The bulls feel certain that it has, but others still have their fingers crossed and continue to urge caution in speculative stock-buying programs.

Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
Stocks				
Industrial	139.8	140.8	144.7	124
Railroad	53.8	55.1	58.7	41
Utility	69.4	69.4	72.3	54
Bonds				
Industrial	122.3	122.1	122.1	120
Railroad	115.0	115.0	115.5	107
Utility	115.4	115.8	116.7	116

Data: Standard & Poor's Corp.

COMMON STOCKS—A WEEKLY RECORD



Data: Standard & Poor's Corp.

THE TRADING POST

ngry Europe

f the people of the liberated coun-s of Europe are to resume their con-utions to civilization with any mptness, they need food for the brain well as for the stomach. They have to make up for years of a starvation of knowledge about the scientific technological progress of the world side the Germans' iron ring.

A letter received from a particularly ghtful young American soldier now ioned in one of these countries tells story better than most of the appeals such help that have reached this ntry.

* * *

"While on leave in Paris and Brussels ied to follow through a bit on a sub- that has interested me here—the cumentation' of scientific workers others who have long been cut off ost completely from their usual rces of information on what has n going on in their specialized sub-s in the outside world. Even now, ost a year after the liberation, their ation has been little improved.

"Away back last year, I wrote the ice of War Information in Washing-, suggesting that brochures be pre-ed summarizing recent developments the different sciences and that articles ed in bibliographies included in such chures be made available in micro-n. I got no answer. Dr. Morris hbein, editor of the Journal of the erican Medical Assn., replying to my uiries about what was being done ng these lines in medicine, wrote t OWI had prepared some brochures l that they were being distributed. ll, nobody in this big city has seen m.

"I know all the difficulties about nsport, etc., but, from where I sit, it ks as if the United States were miss-a very valuable opportunity to do a d and profitable turn for an influ-ial group of people who, as a whole up a tough resistance to the German cupant.' Even from a cold-blooded mmercial point of view, such aid uld be worth while.

"Just as an example: The curator of commercial and industrial museum the university here is anxious to get cumentation and samples on newly veloped products such as nylon and er synthetics, dyestuffs, glass wool, glass fabrics. Most of such material t he now has for museum purposes old German stuff, and he wants to cut away, so far as possible, from the German predominance in all these fields.

"His students, many of whom will be managers and directors of the principal industries of this country in a few years, are eager to see and learn about new American products. Yet, with the situation as it is now, the only way I know of to help him is to write a few individual firms that I am familiar with and see if they can send me samples that I could pass on to him. I am afraid that help on that kind of a scale won't be very adequate.

"I know very well that it will be some time before much private commerce will be going on, but it seems to me that the shipping space required for a little 'intellectual ravitaillement' in the meantime would be microscopic in comparison with the long-term benefits that it would return. And yet, the documentation center of the OWI at the capital of this country oftentimes gets only single copies of important scientific papers for the whole country, in spite of repeated requests for more.

* * *

"Over at the biggest hospital here they are carrying on research work on metabolism, using isotopes—about which I don't know too much, so don't hold me down to technical details. The man who is doing it may find, when at last he gets hold of advanced American technical journals in his field, that all his work was duplicated several years ago by someone pursuing the same research in the United States. But in the meantime he just doesn't know.

"There's something 'snafu' somewhere. Of course, it's no skin off my nose; I'm just here to handle a private-first-class's piece of the Allied Military Government job, but if there were anything I could do to improve this situation, I would feel that I was accomplishing something."

* * *

Mails from Europe are still slow, and this earnest ambassador may now be seeing some better results of the various American efforts to help along the lines he urges. For an interesting individual company example, one chemical concern has prepared for distribution to its prewar foreign representatives a comprehensive brochure which summarizes its wartime development of new products and its plans for their peacetime application. It knows that business has a big stake in this kind of "relief."

Perfect answer!

IF you have a tough, round-the-clock lifting job and your question is "Which Hoist?", a 'Load Lifter' Hoist provides the perfect answer! Day after day the 'Load Lifter' quickly and easily lifts capacity loads with the minimum attention.

Basically it is a heavy-duty hoist—strong, rugged—but, in addition to its structural strength, it has many exclusive features not found in their entirety in any other hoist. Here are several:

- . . . one place to oil
- . . . two-gear reduction drive
- . . . self-contained, ball-bearing motor
- . . . improved mechanical load brakes
- . . . foolproof upper stop.

The 'Load Lifter' is built in almost every conceivable combination to meet special conditions in any industry.

'Load Lifter' Electric Hoists are built with lifting capacities of 500 to 40,000 lbs. in all combinations required for industrial needs. They are adaptable to almost every working condition within their capacities. Send for Catalog No. 215.

MAXWELL MANNING MOORE TRADE MARK

'LOAD LIFTER' *Hoists*

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of 'Shaw-Box' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of Ashcroft Gauges, Hancock Valves, Consolidated Safety and Relief Valves and 'American' Industrial Instruments.

THE TREND

LIGHTING UP THE V-J DAY QUESTION

The explosion of that amazing atomic bomb and of Russia's declaration of war reverberates loudly among our hopes for an early end of the Pacific war's waste of human life and economic resources, for a topping-off of the mounting pile of public debt.

At the same time the new war situation throws a sharper light on a question of immediately practical importance for business and public policy: What will be the effect of an early and sudden V-J Day announcement on business conditions?

At present, opinion on the answer to that question is divided—as we could see just last week.

• **On one side,** the Mead War Investigating Committee of the Senate remarked of a possible early victory: "If that happens, and we all hope and pray it will, it will find us largely unprepared to overcome our domestic problems. Reconversion will not have progressed far enough to absorb the manpower which will suddenly be released. Once this occurs, it creates an inertia which is very difficult to overcome and will seriously interfere with achieving prosperity."

On the other side, the National City Bank Letter commented: "Even from the narrow viewpoint, the country would be better off if the inevitable readjustments have to be faced at once instead of piecemeal. As long as war orders have to be met, the 'bottleneck' problem will persist. If war work should be terminated all at once, problems that are now acute would be rapidly solved. Reconversion would be more rapid, the production of peacetime goods would reach volume proportions more quickly."

• **Curiously, both viewpoints** stress—indeed, overstress—the same fact: the initial slow pace of reconversion. Neither recognizes what Business Week and other observers have pointed out from the first—that the initial progress could not be indicative, that only after the first 15% or so of cutbacks could reconversion really get under way. Our economy needs that much room to turn around in. For new bottlenecks do develop in the redirecting of production from war to peace output, and an integrated chain of plant, materials, and labor is needed for the reconverted productive process to start up again.

Whatever the original, hypothetical forecasts, actual cutbacks are working out to reduce war output by about 3% every month, from last March to the end of the year. This means that the real flow of reconversion output cannot be expected until after Labor Day. Only then will industry have gained enough elbow room from the first 15% cutback. Only after that can additional cutbacks free the labor, materials, and plant required for volume civilian production. But this also means that the pace of reconversion will quicken soon no matter what h pens in the war.

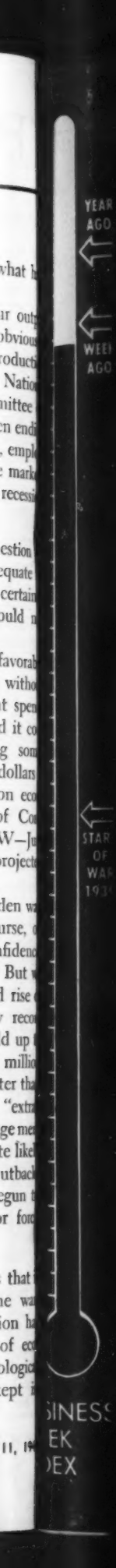
Now obviously, a drastic V-J Day cut in war outp will hasten physical reconversion; and, just as obvious it will be physically impossible for peacetime producti to pick up as swiftly as war output falls off. Natio City harps on the first point, the Mead Committee the second. The real issue is this: Would a sudden end of the war now cut over-all output—and, with it, empl ment and income—so much as to endanger the mark for peacetime goods? Would the immediate recessi spiral downward into a general depression?

• **Economists long ago tried** to answer that question the abstract. But their analytical tools were inadequate produce a clear-cut answer—to prove with all certain that a sudden, complete cutback would or would n spell depression.

Nonetheless, the analysis did turn up some favorab conclusions. For example, it indicated that, even witho any new or unusual major programs, government spen ing would remain high during reconversion. And it co cluded that total business investment running som what above the 1941 rate of about 20 billion dollars year would round out a solid, stable reconversion eco omy (BW—Jul.1'44,p120). Brand-new Dept. of Co merce surveys of business investment plans (BW—Ju 30'45,p116) have just come along to point to a project total which even exceeds that bogey.

Much of what actually will happen under sudden wa end reconversion pressures will depend, of course, o intangibles—consumer psychology, business confidenc and the like. Unemployment can affect all that. But w will want to keep our perspective during a rapid rise unemployment—just as during an initially slow reco version. For the arithmetic of manpower may add up curious results. The demobilization of the twelve millio members of the armed forces will move much faster tha the initial retirement rate of our seven million "extra wartime workers—students, housewives, and over-age me So for a few crucial months, unemployment is quite likel to continue to rise even after the first shock of cutbac has been overcome, and total production has begun t increase. Yet the full readjustment of the labor forc from war to peace will be made in time.

• **In all realism, we can strike** a balance of factors that far from unfavorable to any eventuality in the wa Today, a critical phase of our physical reconversion ha been all but completed; the underlying forces of eco nomic demand remain strong; and the vital psychologic reactions to unemployment per se can be kept i perspective.


YEAR
AGO
WEE
AGO
STAR
OF
WAR
193
SINES
EK
DEX